Sportsman Pilot™

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The Miller/Tews Cessna Bird Dog - see page 22

ALL ARTICLES AND PICTURES BY JACK COX UNLESS OTHERWISE CREDITED

Cover . . . Fernando Ramos' Marquart Charger

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MAG CHECK

While not directly related to our type of flying, the recent airline tragedies are having an effect on general/sport aviation. Events of the magnitude of the ValuJet and TWA 747 crashes always put the FAA's regulatory process on hold - which is sometimes good and sometimes bad. In this case it is bad because the hold has come right in the middle of the rule-making that would have permitted medical self-certification by holders of Recreational pilot licenses, as well as the creation of new certification requirements for light training and recreational-use aircraft. Both measures are badly needed by general/sport aviation to help arrest the free fall of student starts and the growing lack of applicants for the Private ticket.

Most people fly for fun. Recent surveys by AOPA and GAMA have shown once again that nearly 90% of the persons who decide to learn to fly do so because they think it will be fun - or, at least, a fun way to get to fun places. Only about 10% say they want to fly for business purposes.

People who fly for fun don't want to put up with a lot of bureaucratic hassle, which is the way they view a mandatory physical, and since they cannot write off airplanes, hangar rent, maintenance, overhauls, annuals and fuel as business expenses, they are sensitive to the price of everything associated with flying. Faced with these and other perceived obstacles, prospective pilots are currently staying away from aviation in droves.

Hopefully, we have seen the last of the present string of airline disasters, so that the FAA can get back to favorable consideration of the self-certification and lightplane certification rules.

What then? Let's assume the FAA does give a thumbs up to medical self certification and new lightplane certification rules, and, miracle of miracles, significant numbers of prospective pilots do begin showing up at airports around the country . . . are the aircraft factories, FBOs, flight schools, overhaul and maintenance shops, insurance companies and all the rest who want our business willing to try to make a profit on volume rather than continuing to charge whatever the traffic will bear?

Obviously, our present business attitudes and practices are not working. We've lost well over 100,000 pilots in the U. S. in the last decade, and the attrition rate is increasing by the year. Something has to change.

Since 1980, recreational flying and its related activities (homebuilding, restoration, etc.) have been the only significant growth areas in aviation. There ought to be a message there somewhere.

KALEIDOSCOPE

Street rods and airplanes were the theme for the first Sunday in June 1996 open house at the famed Santa Paula, CA Airport. Mel Heflinger's Harlow serves as a backdrop in this shot.

GIFT SUBSCRIPTIONS

Looking for a special way to remember an aviation friend on a birthday, anniversary or other occasion . . . or, maybe, a unique way to say thanks for help on your home-building or antique restoration project? Give that person a subscription to **Sportsman Pilot** so he or she will remember you all year long. To personalize your gift subscription, send us your check, the name and complete address of the recipient and we will send out a nice card containing whatever message you want to convey. There's no extra charge for this service - and we will start your friend's subscription with whatever issue you request.

CRUISIN' CALIFORNIA

Our annual spring trip to California to visit our friends, Ken and Marie Brock, and to attend the Merced West Coast Fly-In began on Saturday, June 1 with a United 757 flight into the John Wayne Airport at Santa Ana. The following morning, Ken and I climbed into his 180 h.p. Thorp T-18 at the Corona Airport and blasted off across the LA Basin for Santa Paula. This tiny airport (a single 2,450 ft. runway), located right in the city's downtown area, is known worldwide as an antique airplane lover's paradise, but it has always been more than that. There are lots of homebuilts there, as well as flight schools, aircraft dealers and a number of other businesses. As many of you will recall, we visited Jim Kern at TASK Research several times before he moved his all-composite P-51 project to Gene Autry, OK, as well as Lance Neibauer and his Lancair werks before he packed up and moved to Redmond, OR. (Was it something we said, guys?)

Almost all our previous trips to Santa Paula were during the week when most of the private hangars were closed, so Ken and I decided to fly in on a Sunday for a change in hopes of seeing more of the weekenders and their airplanes . . . and as it turned out, we got a lot more than we had bargained for!

The city of Santa Paula is nestled down on the floor of a narrow valley with steep mountain slopes rising up on each side. The wind almost always blows up the valley from the southwest . . . and right down runway 22. Left downwind takes one on an awesome ride just parallel to a mountain ridge that has scores of oil wells situated on small ledges cut out of the slope. Normally, the big rocker pumps are working, making the mountain look alive with motion, but this year not a one of them was pumping. I guess the owners are waiting until the price of crude rises above the current $18.00 to $20.00 a barrel.

After landing, we taxied to a tiedown . . . and noticed someone waving to us. To our surprise, it turned out to be Mel Heflinger - whose rare Harlow PJC-2 prototype we noticed on the ramp ahead of us. Mel bases the airplane at the Torrance, CA airport so we thought it was a pleasant coincidence that he and his wife, Dot, just happened to also be visiting Santa Paula that day.

It wasn't just a coincidence. The Santa Paula airport, it turned out, has begun holding an open house the first Sunday of each month, and we had simply flown into one of them purely by chance! On these Sundays, the public is invited to visit the airport, and docents are on hand to give them guided tours of the facilities. Many of the local pilots open their hangars and roll out their showplanes, cars, motorcycles and other

Sportsman Pilot

BACK ISSUES

Most back issues of SPORTSMAN PILOT are still available. We mail them out via first class postage in an envelope for $3.00 per copy ($4.00 Foreign and Canada. The address is SPORTSMAN PILOT, P.O. Box 2768, Oshkosh, WI 54903. List the issues you want by volume and number.

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Perry Schreffler's pickup, Apache and golf cart are painted the same colors and have the same license numbers.

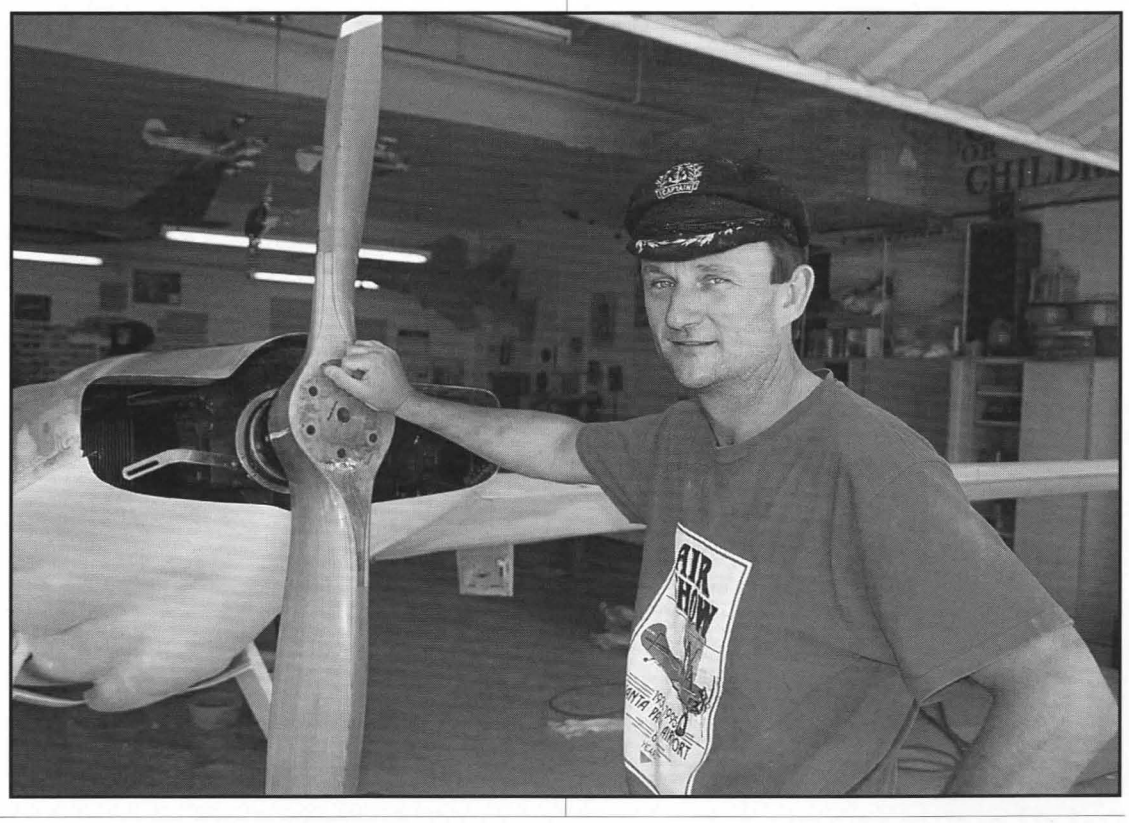
toys for the townspeople to admire, and, usually, some visiting aircraft, such as Mel and his Harlow, also attend and become a part of the display. Frequently, we learned, some other type of hobby group is invited to participate, and on this Sunday it was a Los Angeles area street rod club called the Rodfathers. Both the hot rods and show planes were lined up between rows of hangars, creating a compact and very colorful display for the visitors.

Los Angeles is the birthplace and spiritual home of the hot rod, so I thought it would be interesting to see what latter-day rodders are building in the "holy land." Perhaps as their name implied, however, we found that most of the Rodfathers were guys who had built hot rods when they were teenagers and now, later in their lives, were back at it again. Some had never stopped building and had simply grown older with their hobby. The cars, as you can see in the photos, were largely the traditional Model T and subsequent Ford-based hot rods, but a close examination revealed such modern touches as Jaguar suspension pieces and electronic fuel and injection systems. The workmanship was, of course, absolutely gorgeous on all of them.

The aircraft on display included a couple of ***Sportsman Pilot*** subjects from past issues: Mel Heflinger's Harlow, which was featured on these pages in our Spring 1983 issue, and Tracy Saylor's RV-6, which appeared ten years later, in our Spring 1993 issue. When we interviewed Tracy three years ago, he lived up the coast in the San Luis Obispo area, but later in the day we were to learn that he now has a hangar at Santa Paula.

One of our favorite displays was Perry Schreffler's toys, neatly arrayed in front of his hangar. His Chevy Apache pickup, 1954 Piper Apache and golf cart are each painted in the same beige with tan trim and each has the same license/N number N1305P. He also had his Lycoming powered Bücker Jungmann on display, but it is still in a German military paint scheme. A sad note was the fact that Perry's hangar is beside that of the late Bob Van Ausdell, who died recently in the overturn of the Staggerwing Foundation's Travel Air Mystery Ship. In his memory, friends rolled out his treasured yel-

Dan Gray and his Lycoming IO-540 Berkut project.



low Staggerwing, NC67550, so it could be admired by the crowd once more.

After lunch in the new (to us), very nice airport restaurant, Ken and I ventured off to see what other hangars were open. Peering inside one of them, I knew instantly whose it was by the number of bright blue Menasco engine cases and Kinners that were lying around. This was Al Ball's engine shop. Al was not around at the time, but we had an enjoyable conversation with his son before moving on to other discoveries. Al is also a past ***Sportsman Pilot*** subject. He and his Kinner powered Great Lakes were featured in our Winter 1995 issue.

Santa Paula has two distinctly different hangar areas today. First is the old part that is composed mostly of somewhat weathered corrugated metal hangars. That's where the old gang has hung out for about as long as anyone can recall today and is where most of the vintage aircraft are hangared. Then, to the west of that area, are rows of nice new hangars. Obviously built since the enactment of strict local building codes, they are equipped with sprinkler systems, bathrooms, the latest in electrical service and insulation. The first few rows we encountered even had apartments built on a second floor atop them. Santa Paula is a private airport and all the hangars are individually owned, although some are available for rent. We were told that these very elaborate new hangars originally sold in the $75,000 range, but the few that are currently for sale are being offered in the $200,000 range! That emphatically keeps magazine editors and other such riffraff out, but if I could afford it, I can't think of a more interesting place to have a hangar than the Santa Paula Airport.

Gravitating toward the first of the new hangars we found open, we saw several guys hard at work on an unusually sleek Berkut. The fuselage seemed longer and, at the rear, shallower than the prototype Berkut, and we soon learned why. First, however, we discovered that the hangar and the project belonged to airline and air

race pilot, Dan Gray, and soon we had him engaged in conversation. Dan, as you race fans will recall, previously owned the Grove GR-7 Formula One racer built in the late 1980s by Bob Boyd of Hayden, ID and raced it for several years before selling it to his ex-wife, Kathy Gray.

The different look of the Berkut quickly came into focus when Dan told us it was powered by a Lycoming IO-540. There's no -540 I'm aware of that would fit into the shallow cowling on Dan's Berkut, however, but the mystery was solved when we were invited to peer into the cooling outlet and saw that the oil sump had been chopped and channelled to fit.

With a heavier six-cylinder engine, Dan said he was having to move everything possible to the front to keep the CG within limits. He has a full IFR panel and an oversize battery up front, but still expects to have to add about 20 pounds of ballast in the nose. He fully expects the extra effort to be worthwhile, however, calculating a cruise of 250 mph and an even higher top speed. A special version of Klaus Savier's custom-made, carbon covered fixed wood propellers will be fitted.

"There is really no reason to go with a constant speed propeller on an airplane like this," Dan says. "It will be so overpowered that it will get off short and climb spectacularly, even with a fixed cruise prop."

Dan plans to use the high powered Berkut for personal transportation and air show work. When Ken and I saw the project in early June, Dan was hoping to have it finished in time to fly it to Oshkosh. Perhaps many of you will have seen it there by the time you are reading this.

Sitting outside Dan's hangar was his previous homebuilt project, a bright yellow Dragonfly powered with a Continental O-200. With the heavier engine (the Dragonfly was designed to use a VW), anything less than a perfect landing often resulted in shortened prop blades, Dan related, so he compensated by switching to a very short three-blade Warp Drive prop and installing a small wheel just behind the engine to catch the fuselage on hard landings.

"I also had to put a speed brake on it, because the thing glides so well we couldn't get it on the Santa Paula Airport."

A couple of Dan Gray's projects: his IO-540 powered Berkut (top) and his O-200 powered Dragonfly.

Dan's hangar was full of interesting things, not the least of which were a number of very large model airplanes hanging from the ceiling. Many of them, we learned, were built for the movies. They were among few survivors, because most of them are destroyed in simulated crashes, Dan said.

An unfortunate postscript to our visit with Dan Gray is that on June 29, he experienced an engine failure while flying his Berkut and had to land on a highway near Santa Paula. He clipped a tree and hit a station wagon before coming to a halt. Fortunately, Dan and the occupants of the station wagon received only minor injuries. According to the preliminary FAA report, the Berkut was "destroyed."

From Dan Gray's hangar we moved on down the row to visit a bit with Tracy Saylor - and learned at that point that he had become a Santa Paula resident. Since he

and his RV-6 were featured on these pages in our Spring 1993 issue, he had build a new, lower drag cowl and had done a lot of work cleaning up his main gear. Picked up several miles per hour for his effort, too.

Tracy really gets around the sport aviation world. Since meeting him at Casa Grande, AZ a few years ago, we have been running into each other at fly-ins everywhere - Oshkosh, Sun 'n Fun, Copperstate, Merced. He rarely misses one anywhere.

Klaus Savier's hangar was next door to Tracy, but, unfortunately, he was on a trip to Germany at the time. This is where he builds his electronic ignitions (Lightspeed Engineering is his company) and, of course, where he continually tweaks his ultra fast VariEze to win so many of the air races that are held around the country.

FLABOB

On Monday morning Ken and I launched forth in his T-18 again, this time for the arduous trip from Corona to the FlaBob Airport in Rubidoux. For those of you not familiar with the LA Basin, that's a flight of maybe ten or twelve minutes in a 180 Thorp - but, hey, to use one of Ken's favorite expressions, the automobile is a primitive way to travel! We would never stoop to pounding the pavement when we can fly, no matter how briefly.

Our first stop at Flabob . . . since the door was wide open . . . was Bill Turner's Repeat Aviation hangar. This is where he and his crew built Tom Wathun's deHavilland DH. 88 Comet, and where an exciting new project is now underway. The day following our visit, Bill met with Tom Wathun and the decision was made to build a flying reproduction of Roscoe Turner's Turner Special. Known by a different name each year (Ring Free Meteor in 1937, the Pesco Special in 1938 and Miss Champion in 1939), this is the racer in which Roscoe won the Thompson Trophy in 1938 and 1939. The original racer is in the National Air and Space Museum collection in Washington, and Bill and two or three members of his crew were planning a visit to take measurements, photos, etc. With the possible exception of Steve Wittman's Curtiss D-12 powered Bonzo (when its mags weren't overheating), the Turner Special was the fastest of all the pre-World War II unlimited air racers. It's one all vintage race fans have hoped someone would reproduce - and now it will come to pass. Thanks in advance to Tom Wathun, Bill Turner and the Repeat crew for the opportunity we will have to see another Golden Age racer fly.

Ken and I did not know about the Turner racer project when we arrived at Bill's hangar, however. We had come to see still another project - a tiny racer at the other end of the spectrum from Roscoe Turner's 1,000 h.p. Ring Free Meteor/Pesco/Miss Champion. We were there to see the Pobjoy Special Repeat Aviation is building for Dick Sampson of Ft. Lauderdale, FL.

THE POBJOY SPECIAL

Sometime in 1929 a nineteen year old with a year of college, some experience as a helper with a barnstorming troupe and a few flying lessons under his belt was hired by the Nicholas-Beazley Airplane Company of Marshall, MO as an engineer and, later, ground school instructor. From nearby Macon, MO, young Robert T. Jones was acknowledged to be bright, a math prodigy, in fact, but certainly no one at the time had an inkling of what a genius they had in their midst. All that was well into the future, however, and at the time the new hire had to be content with a starting salary of $15.00 per week (it was doubled when he began teaching ground school).

Young Jones' tenure at Nicholas-Beazley was to be cut short by the onset of the

The legendary Roscoe Turner, resplendent in his self-designed blue and buff uniform, fuels his Turner Special at Cleveland. Bill Turner's Repeat Aviation is building an exact reproduction of the racer for Tom Wathun.

Radtke Collection, EAA Aviation Foundation

Radtke Collection, EAA Aviation Foundation

The Pobjoy Special after modifications by Steve Wittman.

Great Depression and the cutbacks all aircraft businesses went through in the early 1930s, but he did accomplish one thing while there he would always be proud of: the design of his first airplane.

At the time, Nicholas-Beazley was one of the largest aircraft supply houses in the world, and had just embarked on a new venture, aircraft manufacturing. The company had hired Walter Barling to design what then was an ultra-efficient, low wing monoplane, the NB-3, which could carry three people on just 60 h.p. The all-metal, fabric covered airframe was quickly whipped out, but finding a really reliable 60 h.p. engine in the late 1920s was another matter. It would be a full decade before the first truly great small aircraft engine, the Harold Morehouse-designed Continental A-50, came along, so Nicholas-Beazley did a lot of scurrying around in search of a reliable, affordable engine to power their NB-3. Eventually, the airplane would be certified with three different engines, the LeBlond 60, Velie M-5 and the British Armstrong-Siddley Genet Mark 2, which was being imported by Fairchild, but none was ever successful to the degree that the small Continentals would be, beginning in the late 1930s.

Another small engine Nicholas-Beazley considered was the British Pobjoy, an example of which was purchased by the firm's president, Russel Nicholas, while on a business trip to England. When it showed up at Marshall, MO, the new $15.00 per week engineer, Robert T. Jones, was given the task of working up a weight and balance for a projected version of the NB-3 equipped with the Pobjoy, and he quickly pointed out some serious problems. The Pobjoy was unique in that it ignored accepted aviation practice and employed a lot of motorcycle technology and concepts. Even at this early stage of aviation history, aircraft engines had already settled into the rut of attaining reliable operation from large displacement and slow rpm. The Pobjoy took a different tack: it was a small displacement engine that produced its power by turning at a high rpm, and used spur-type reduction gears to produce an acceptably slow propeller rpm. Tiny things, the Pobjoys were 7-cylinder, air cooled radials with the gearbox up front and the prop shaft offset above the centerline of the engine. The first of the series, the P-types, were only 25 inches in diameter and with a displacement of 151 cu. in., weighed just 119 pounds dry. They produced 65 h.p. at 3,000 engine rpm (with the geared down prop turning 1,570).

The light weight was the problem for Nicholas Beazley. Its NB-3 had been designed to use the LeBlond 60, which weighed some 240 pounds - twice that of the Pobjoy. Using the Pobjoy on the airplane, Jones pointed out, would require cantilevering it out so far that the NB-3 would have a snozz like an ant eater. That was not acceptable to management, so Nicholas-Beazley found itself with an expensive engine on hand for which they had no use.

Robert Jones had some ideas for it, however. He had been studying the air racers in the big national events and had concluded that a huge engine was not required to win. A closed course average of 200 mph would be sufficient to win the Thompson Trophy in its inaugural year of 1930, his calculations showed, and his scheme was to create an extremely small, light racer . . . about the size and weight of today's Formula Ones . . . that could accomplish the task. It would be fairly fast, due to its good power-to-weight ratio and a clean airframe design, but its real advantage would come from a span loading low enough to allow it to sweep around the pylons without losing a lot of speed. In retrospect, that was some very astute thinking on the part of a largely self-taught nineteen year old, because it has been only in recent years that Formula One has finally come around to realizing that the fast way around a race course is on long, skinny wings. Young Robert T. Jones was decades ahead of his time . . . but considering his future accomplishments, that doesn't surprise us much today.

The availability of the lightweight Pobjoy engine, which was perfect for his proposed midget racer, gave Jones the opportunity he needed to approach his boss with the suggestion that the company back the project. Probably to his surprise, Nicholas thought he had some good ideas and agreed to provide the engine, materials and shop space, if employees were willing to volunteer their time and work on it after normal business hours.

At the time Robert T. Jones came to work for Nicholas-Beazley, the company was without a chief engineer for its aircraft division. NB-3 designer Barling had left and a replacement had not yet been found. Jones did essentially all the preliminary design work on the Pobjoy powered racer before the company finally hired Thomas Kirkup as Barling's replacement, but be-

cause Kirkup was the chief engineer when the racer was completed, it was assumed by those outside the company that he was the designer. For whatever reason . . . perhaps Nicholas-Beazley felt it would be better for sales if the public believed the company's products were designed by recognized engineers . . . there was no effort to correct the assumptions regarding Kirkup's role in the design of the Pobjoy racer. It was only when Robert T. Jones wrote an article for the September 1993 issue of ***Sport Aviation*** that the truth finally came out. According to Jones, "Tom Kirkup's principal contribution was in teaching me how to do the stress calculations, calculations which often occupied me until late midnight hours." He went on to say, "The airplane was actually built by Claude Flagg and H. F. Landis who had patented the unusual wing construction we used."

The Nicholas-Beazley racer had a span of 21 ft. and 9 in. and a length of just 12 ft. 9 in. The empty weight was just 355 pounds, which means that if the 119 pounds of the Pobjoy engine and, say, 10 pounds for a propeller are subtracted from that figure, just 226 pounds are left for the airframe! The fuselage and tail were of welded steel tube construction, and the wing utilized the patented construction method used on the NB-3. The most significant feature of this method was the way the spars were fabricated: sheets of aluminum were stamped into U-channels and riveted into the desired lengths. Stamped aluminum ribs and aluminum leading edges completed the structure, which was very light and strong. The NB-3's wings were full cantilever structures, which were made possible by the use of a thick airfoil that allowed the use of a deep spar. A thin airfoil was desired for the Pobjoy racer so its wings were wire braced, with the lower wires extending down and attaching to the wheel's axles. A very unusual feature was the use of an inverted Y-shaped tubular structure between the rigid landing gear legs to carry those wing wire loads across and up into the fuselage structure. Small balloon tires were used as the only means of shock absorption, and there were no brakes. A tail skid was used at the other end of the fuselage, attached to the bottom of the vertical fin, which extended well below the fuselage.

In the racer's original configuration, the Pobjoy engine was fully cowled and an open cockpit was utilized. The airframe was fabric covered and painted black and gold. The N-number was R1W and the race number 23 was scrawled on in white for the 1930 National Air Races. The name Phantom I was painted on the sides of the fuselage just behind the cowling.

Unfortunately, the tiny racer did not come close to its projected 200 mph top speed in its initial flight tests, which Robert Jones attributes largely to the use of an inadequately pitched propeller. According to his calculations, "The geared down engine required a propeller with an 11 ft. pitch to achieve this much speed. However, measurement of the propeller as received from the shop showed only a 7 ft. pitch." Perhaps the prop shop selected the pitch on the basis of engine rather than prop rpm, forgetting the Pobjoy was geared . . . but, whatever, pilot Danny Fowlie was able to do no better than 115.24 mph - and third place - in the Men's 275 cu. in. class Free For All race during the 1930 Nationals, which were held in Chicago that year.

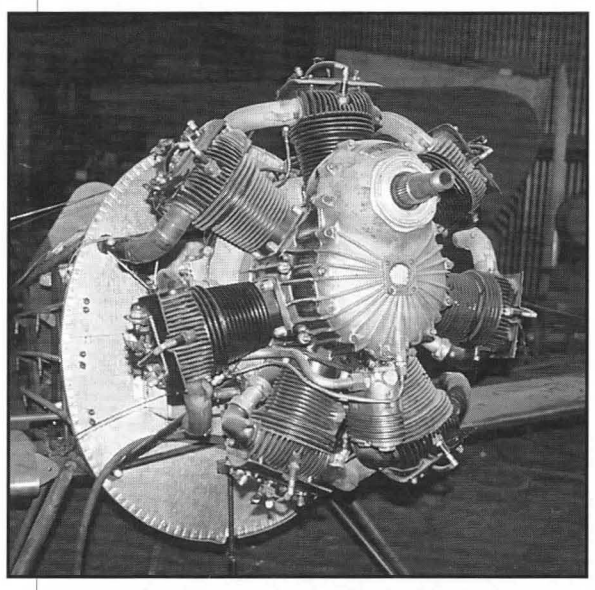
Interestingly, Robert T. Jones' estimate of the speed that would be necessary to win the 1930 Thompson was amazingly accurate. He had predicted 200 mph, and the eventual winner, Speed Holman, averaged 201.91 mph in the Laird Solution. Too bad the guys in the Nicholas-Beazley prop shop didn't pay more attention to their young genius.

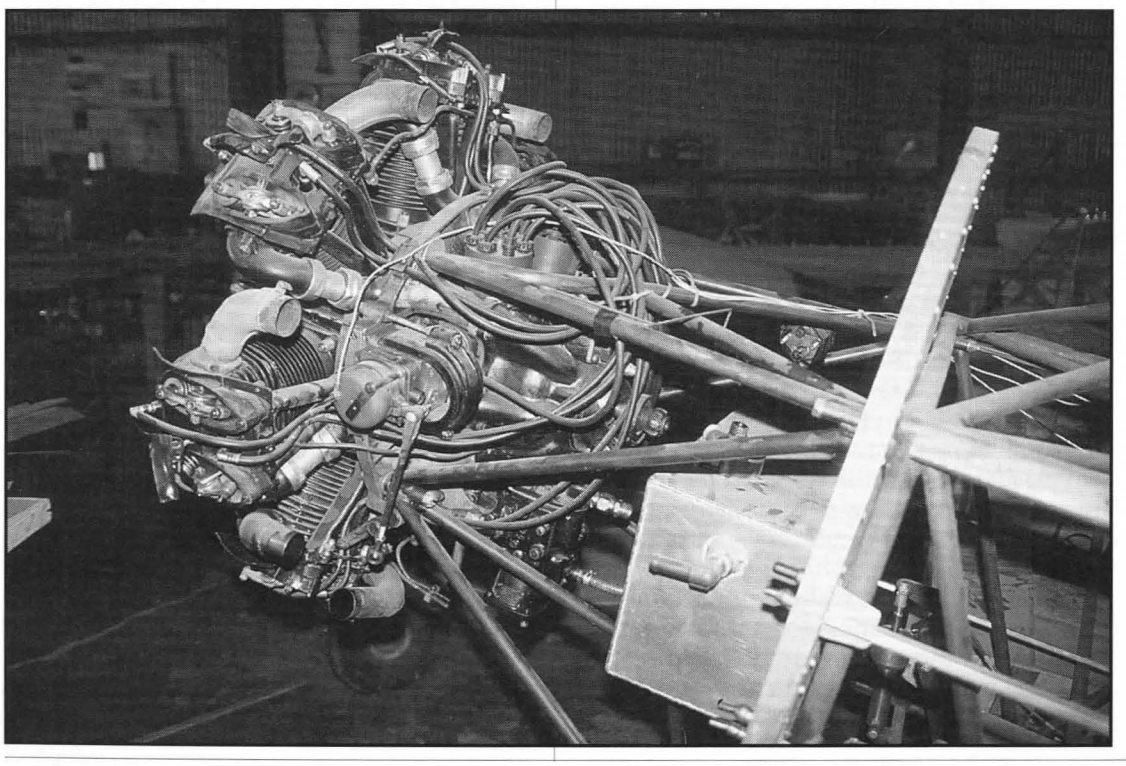
By the end of the 1930 racing season, the country's economy was in free fall and the Great Depression was under way. Lightplane manufacturers would be among the hardest hit industries, and Nicholas-Beazley was no exception. Among the casualties were the Pobjoy Special, which was sold, and its designer, Robert T. Jones, who drifted back to his hometown of Macon, MO in search of work.

Little is documented on the whereabouts and activities of the Pobjoy Racer in 1931, but in 1932, it ended up in the capable hands of the legendary Steve Wittman. Just how that came about is an interesting story and is one I had the privilege of hearing Steve tell on numerous occasions over the years . . . every time the subject of the Pobjoy Special came up, as a matter of fact. Whenever the airplane was mentioned, Steve would grin and ask, "Have I ever told you the **real** story behind that racer?" I always said no because I wanted to hear it again.

"People have always said the Pobjoy was the only racer I ever owned that I didn't design and build, and that's true - but there was a reason for it. It wasn't really mine. It was really owned by a Department of Commerce inspector. The government rules in effect at the time didn't allow inspectors to be involved in activities they monitored, so he couldn't get involved in racing. He wanted to buy the Pobjoy racer and he wanted me to race it for him, so we agreed to do a little deal on the side. He put up the money and I bought it and registered it in my name. I never could tell anyone, of course, because I would have been in just as much trouble as he was. I raced it in 1933 and 1934 and set a world record in it in 1934, and then we sold it."

On most of the occasions during which I heard this and other air racing stories,





A couple of views of Harold Gallatin's 90 h.p. Pobjoy Niagara II installed in the reproduction of the Pobjoy Special being built for Dick Sampson.

Steve's first wife, Dorothy, was still living and she always took part in the conversation. Steve would tell the bare bones version of a story, and Dorothy would fill in all the details. Steve knew all the airplane stuff and Dorothy recalled all the people involved and, seemingly, everything about them. She was quite outspoken, and didn't mind calling 'em as she saw 'em. Air race historians lost an irreplaceable resource when Dorothy died in 1992.

Steve loved to talk about his brief association with the Popjoy Special, perhaps because most of the anecdotes connected with it were amusing stories . . . like his first flight in the airplane in Milwaukee. By that time the airplane had acquired a reputation as being extremely tricky to fly, and, indeed, the last pilot who had flown it was said to

The original Pobjoy Special had fabric covered metal wings, with spars that required special tooling to form. The decision was made to use wood in the reproduction, with, of course, the same airfoil and planform.

have made a pact with the Lord that if he got down in one piece, he would never get in the thing again. Thus when the word spread that Steve was going to try his luck, a crowd quickly gathered to witness his suicide attempt. Steve loved to tie that little episode up with the comment, "Lo and behold, I fooled them!"

The problem Steve found with the racer was that the rudder control mechanism was very poorly executed. In an apparent effort to contain the cables and rudder bellcrank within the thin aft fuselage, the builders had resorted to a complex systems of pulleys that created a lot of system friction and restricted the rudder travel quite a bit. The result was a lock-to-lock rudder bar travel of less than two inches, and a non-linear action/reaction. The pilot, Steve related, would push on the bar and get no response, then push some more with the same result. Finally, he would give it a hard shove, and suddenly the airplane would be flying sideways! Steve mastered the condition by pressing both feet firmly on the rudder bar and biasing the pressure in the direction he wanted to go.

When Steve and his secret partner purchased the Pobjoy Special, it had been modified somewhat from its original configuration. Its open cockpit had been reworked into a closed canopy arrangement, wheelpants had been fitted and, apparently, the original 151 cu. in. P-type Pobjoy had been replaced with a newer 173 cu. in. R-type that developed 75 h.p.

Steve raced the Pobjoy Special at the 1933 Chicago International Air Races and won all three of the events limited to aircraft with engines displacing 200 or less cubic inches. He increased his speed in each race, from 106.55 mph, to 110.17 and, finally, 120.01 mph. Lyman Voelpel finished second in the Tilbury Fundy Flash, but was far behind each time. Steve won $180 in each event for a total of $540. He also won $620 that Labor Day weekend in Chief Oshkosh, so his total take was $1,160. That may not sound very impressive until a few facts of history are recalled. 1933 was the year the nation's banking system collapsed . . . and the **annual** wage of a unionized steelworker averaged just $422.87. Even doctors averaged just $3,382 per year, dentists $2,391. Steve's $1,160 had the buying power equivalent of about $23,200 in today's money, so obviously he had a rather successful four days of work. He and his silent partner, that is.

Shortly after the Chicago races, Steve took a hack saw and a welding torch to the Pobjoy Special and added about 21 inches to the aft fuselage. He also changed the shape of the vertical tail to look like that on his Chief Oshkosh and ran a dorsal fin all the way up to the top of the headrest to further increase the effective tail volume. At this time the cowling was also removed and the engine was left fully exposed in its subsequent race appearances. According to Steve, the racer flew much better with the extended tail arm, and was now faster, even with the uncowled engine and increased weight. The airplane now weighed 434 pounds, most of which was the R-type engine's additional 16 pound dry weight and the added structure in the extended fuselage.

1934 was a very good year for Steve and the Pobjoy Special. He entered it in the 200 cu. in. race at New Orleans and won, then set a 100 kilometer world speed record of 137.513 mph for aircraft weighing 440 pounds or less. Steve was also flying Chief Oshkosh at New Orleans, so when an event came up in which both it and the Pobjoy Special were eligible to compete, he put Roger Don Rae in the Pobjoy. Roger was properly briefed on the odd rudder bar characteristic, but didn't pay a lot of attention until he approached the first pylon. Barely avoiding a couple of guy wires and the pylon itself, he settled down and adapted to the system as Steve had, but was still wide-eyed when he landed. Steve and Dorothy laughed about Roger's first pylon antics for the rest of their long lives.

At Cleveland the following Labor Day, Steve once again cleaned up in all the 200 cu. in. races. His fastest time was 129.440 mph.

Sometime after the 1934 races, the Pobjoy Special was sold to Percy V. Chaffee of Lake Delton, Wisconsin, who proceeded to take up right where Steve had left off. In the 1935 National Air Races at Cleveland, Chaffee won both of the 200 cu. in. events that were run. His fastest time was 125.305 mph.

As events transpired, the 1935 Nationals were the last hurrah for the little Pobjoy Special in big time air racing. In 1936, the 200 cu. in. class was eliminated, so there was no longer a venue in which it could be competitive. The next step up was the 375 cu. in. class, but that would have meant competing against the four cylinder Menasco-powered racers such as the Folkerts Toots, Art Chester's Jeep, the Miles and Atwood Special and Steve Wittman's re-engined Chief Oshkosh. The best of these racers were around 100 mph faster than the Pobjoy Special, so it was pointless to try to compete against them.

The last known race in which the Pobjoy Special participated was an event in St. Louis in 1937, where it averaged 158.3 mph for 50 miles around a triangular course. It was running in the 395 cu. in. class, so despite the fact that it turned in its fastest time ever, it still trailed the newer Menasco powered racers badly.

Later that year, Dick Sampson, a young pilot from Evansville, IN had his Model 90 Monocoupe wrecked by a partner in a barnstorming venture and received an unsolicited offer from the Lewis school in Lockport, IL to trade the Pobjoy Special for the Monocoupe wreckage. Unable to afford a rebuild of the Monocoupe, Dick accepted the offer and had the little racer shipped to his hometown, where a friend would assemble and test fly it in his absence (he had taken an engineering job in Detroit at the time). Unfortunately, the friend flipped the Pobjoy Special on its back on his first landing, breaking the prop and inflicting minor airframe damage.

This time Sampson had the wreckage shipped to him in Detroit, where he had it rebuilt by Everett David, designer and builder of the Kadiak Special, a little biplane that had also raced in the smaller displacement classes in the early 1930s. Even though it was made airworthy again, the airport manager at the Detroit City airport where the Pobjoy Special was based refused to allow it to be flown from the facility - too dangerous, he maintained. Unwilling to go to the expense of shipping the racer again, Sampson simply fired it up, took off against a red light from the tower and flew it 75 miles to Jackson, MI. There, he traded it to the Becker-Forner Flying Service for another Monocoupe - which brought him back around the circle to where he had begun his adventures in aircraft ownership.

The racer was later sold to a Dearborn, MI pilot, but it was not flown again until after World War II when it was converted to a Goodyear racer (now Formula One) by John Reaver of Panama City, FL. Re-named the Reaver Special, its Pobjoy engine was re-

placed with a Continental C-85, which gave the airplane a completely new look. A number of pre-war racers were converted to Goodyear specifications, but only Steve Wittman's Chief Oshkosh, reincarnated as Buster, proved successful.

Reaver eventually traded the former Pobjoy Special to an Air Force pilot at Tyndall AFB in Florida, who later took it with him to the West Coast. For a number of years the racer would be registered to David Freeman, and it finally ended up registered to a post office box address in St. Maries, ID. The trail goes cold there in the mid-1980s and it seems there is no one around today who knows what ultimately happened to the airframe.

Some time ago, Dick Sampson, who lives in Ft. Lauderdale today, decided he would like to have the Pobjoy Special back again and began a search for it. He was the one who tracked it down to St. Maries, ID - and is still looking for it. He eventually decided to commission Bill Turner to build a flyable reproduction of the airplane, and began a search for a rebuildable Pobjoy engine. The word eventually reached me at EAA Headquarters and I got the word back to California that Harold Gallatin, one of the founding members of EAA, had two of them, and, in fact, had displayed one of them at the antique engine tent at Oshkosh just a year or so earlier. Harold, who has forgotten more about engines than most of us will ever know, agreed to loan one of his Pobjoys for the project - with the understanding that it would eventually return to the EAA Aviation Foundation for display in the new Wittman Hangar. Dick Sampson was agreeable because he wants the Pobjoy Special to eventually be displayed there also in honor of Steve Wittman.

When Ken and I saw the little racer reproduction in early June, it was essentially ready for cover. The engine had been overhauled and given a successful test run by Mike McQue, a former motorcycle mechanic who is a key member of Bill Turner's Repeat Aviation crew, so there is no reason the airplane can't be completed and test flown sometime late this year. The engine is a Series II Pobjoy Niagara, Serial Number 2013, which was built in July of 1933. It is rated at 90 h.p., which should make the reproduction faster than the original racer.

Finally, what was the fate of the 19 year old designer of the most successful of all the 200 cu. in class Golden Age air racers? As previously related, Robert T. Jones went back home to Macon, MO in search of work, but could find nothing to do. Eventually, however, his Congressman provided him with a job as an elevator operator in the House Office Building in Washington . . . which turned out to be the big break of his career. Like a future movie star being discovered in a Hollywood drugstore, R. T. was found to be a math prodigy by scientists who rode his elevator and, later, when the WPA made some nine month appointments at NACA Langley available, he was made the recipient of one of them.

Taken under the wing of Fred Weick at Langley, R. T. became a permanent employee of NACA. Weick was working on his W-1/W-1A projects at the time and turned to his young math whiz to do the analysis that proved the two-control system and the tricycle gear were feasible. Weick would leave NACA in the mid-1930s to design and develop the Ercoupe and R. T. would eventually end up at the NASA Ames research center near San Jose, CA. Along the way, R. T. would conceive of the theories behind the all-flying tail, which John Thorp would put into practice; the swept wing, which made supersonic flight feasible; and the skewed wing, which, if ever utilized, would make it economical. Those were just the highlights. When NASA published the collected scientific works of R. T. Jones in 1976, they ran to over a thousand pages! More importantly, however, they represent the very foundation of high speed flight as we know it today.

Now 85 and long since retired, R. T. has been the recipient of scores of awards for his work and is universally recognized as one of the foremost aerodynamicists in aviation history. In the 1970s and 1980s he was a frequent attendee at Oshkosh and often took part in the forums there. Interestingly, he finally became a pilot in his later years and bought an Ercoupe, which his early theoretical work helped make possible.

With two aviation greats like Steve Wittman and R. T. Jones so much a part of its history, it's easy to see why Dick Sampson has hunted for so long for the original Pobjoy Special, and why his lack of success in finding it has prompted him to have Repeat Aviation build a second one for posterity.

Bamboo Bomber Spar

Another highly interesting project in Bill Turner's hangar was the beginnings of a one-piece main spar for a Cessna Bobcat, or, more popularly, a Bamboo Bomber. If you are old enough to have been hanging around airports in the 1950s and 1960s, you will recall that almost all of them had at least one Bamboo Bomber pushed off in the weeds and rotting away. Apparently, FlaBob was one of them, and, today, some ambitious souls are attempting to resurrect that airport's erstwhile derelict. The term "Bamboo Bomber" was derived from the fact that the light twin had an all-wood wing . . . which was quite a hunk of timber. It was a one-piece affair with a span of 41 feet and 11 inches, and had full-length laminated spruce front and rear spars, beefy enough to handle the air loads, landing gear loads and to serve as the structural members from which the two Jacobs or Lycoming radial engines were cantilevered. Although perfectly adequate for the task when new, the wood wings proved to be the airplane's Achilles' heel in later years when left sitting out in the weather. The steel tube fuselages could be made to go on seemingly forever, but, eventually, the wood spars began to rot. Of course, in fairness to Cessna, we have to recall that the 5,400 or so Bamboo Bombers built were for use in World War II and absolutely no one expected them to still be around and flying a half century later.

Anyway . . . Roger Baumert, another expert member of the Repeat crew, has taken on the task of building new spars for a Bamboo Bomber wing and is using a section of Bill Turner's hangar for the task. His first job was building a 42 foot long, perfectly flat table and a heavy duty scarfing tool. The spars are solid laminated wood rather than the built-up box spars one might expect. Each consists of several layers (more in the middle and fewer as it tapers out to the wing tips) of spruce boards of what appear to be random lengths. Undoubtedly, there is a pattern in the layups, but the really critical factors are providing an adequately shallow angle for the scarf joints and ensuring that the joints of one layer do not line up with those of the adjoining layer. The project appears to be a monumental task, but nothing to compare with the exceedingly complex one-piece wing of the deHavilland Comet that was built in the same hangar a couple of years ago. Roger was a member of that crew, so he knew exactly what he was getting into with the Bamboo Bomber wing. Craftsman that he is, it goes without saying that he is doing a beautiful job.

Still More Projects

After lunch at the FlaBob restaurant, which is as much a daily ritual for the FlaBob faithful as a Moslem's prayers, we visited several more projects. The first stop was at Rick Loomis' hangar/shop where his Loomis Mystery Ship had reached the paint stage. The Mystery Ship is a highly modified, 450 h.p., P&W R-985 powered Waco UPF-7, much like the one campaigned by air show ace, Jimmy Franklin. Rick's has its own custom touches and will have a more colorful paint design than Franklin's black and silver Wacos (Jimmy has two of them,

Ed Marquart gets some stick time in his Buhl Sport Airsedan. Photo by Bernie Gross - Courtesy EAA Chapter 1

Ed Marquart's Buhl CA-3C Sport Airsedan set up for display during EAA Chapter 1's annual open house at the FlaBob Airport. Photo by Bernie Gross - Courtesy EAA Chapter 1.

one powered by a R-985 and the other by a R-1340). Rick intends to join the air show circuit when his Mystery Ship is completed, so you will get to see it in the not too distant future. It'll be a beauty.

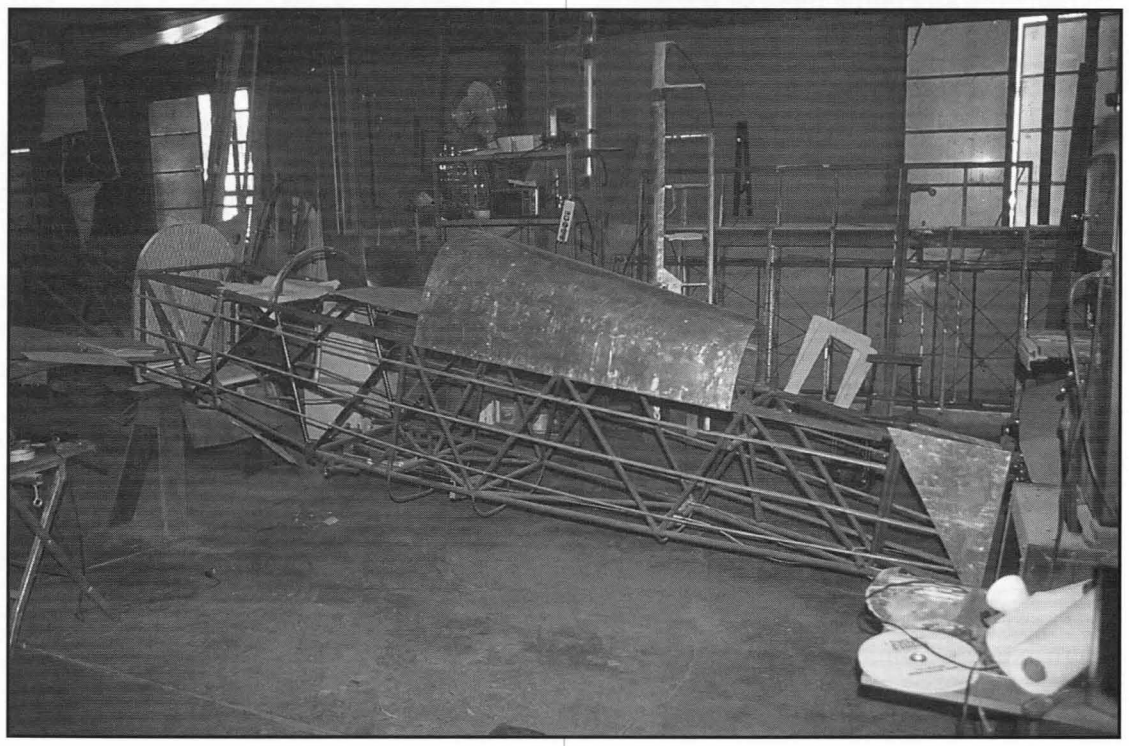
Next was our annual visit with Ed Marquart at his shop. As always he had a couple of his customer's Charger fuselages in the process of being welded up, but the most interesting project was his own 1928 Buhl CA-3C Sport Airsedan. Ed has owned this extremely rare airplane for decades but it has been collecting dust for most of that time. Last winter, he finally got serious and has completely rebuilt the fuselage frame. It was essentially all there all along, but much of the tubing was rusted out so he had to replace it. As it turned out, only the cabin section could be saved - the rest is now brand new. The lower sesqui-wing was ready for cover when we saw it in early June, but the upper wings still needed some work.

If you are not familiar with the Buhl Sport Airsedan, and few people are, turn to page 123 in Volume 1 of Joe Juptner's **U. S. Civil aircraft** and you'll see a picture of Ed's NC5860, Ser. No. 28. With a 220 h.p. Wright Whirlwind in the nose, the Sport Airsedan was a real hot rod in its day and was flown in the 1928 National Air Tour, where it finished tenth. We're really pleased to see Ed actively working on the project, because it will be a real sensation when it is completed.

Ed's Sport Airsedan is the only one currently on the FAA's civil aircraft register, but there have always been rumors of a second one . . . somewhere. Ed says the rumors are apparently true and that the other one is also now in the process of being restored. That would be a sight to see - **two** Sport Airsedans!

At the time of our visit, Ed had just made the decision to forego flying to the Merced fly-in in his Fairchild 22. A brake problem had proven insurmountable in the time he had left before opening day. No matter, we advised him, it was better to get back on the Buhl, because although there are a handful of 22s around today, few of us alive today have ever seen a Sport Airsedan - and we all want to.

From Ed's shop, we walked next door to Stan Rackleff's digs to check out the progress on his Schoenfeldt Firecracker reproduction. He has all the big pieces completed - the fuselage, one-piece wing, the control surfaces - and he has the Ranger engine he plans to use on a stand. Currently, he is in that dreaded "90% completed, 90% to go" stage in which all the little time-consuming things are yet to be done - the time when days of intense labor can be reeled off without visible progress. The Firecracker is the little 549 cu. in. class racer in which Tony LeVier won the 1938 Greve Trophy and came in second in both the Greve and Thompson Trophy races in 1939. The original racer is on display in the Planes of Fame museum at Chino, CA and it has been handy for Stan to dash over and take a measurement whenever needed. The original has had a cosmetic restoration and apparently will not fly again, but Stan wants us all to see his Firecracker fly. He's doing a great job and is now within shouting distance of his goal, so it looks like we will get that opportunity.



Stanley Rackliff's Schoenfeldt Firecracker reproduction in early June. The one-piece wing is easily rotated by means of the two large wooden wheels you see here.

Before hopping in Ken's T-18 and beginning our exhausting flight all the way back to Corona, we stopped in to visit Jan Johnson in the EAA Chapter 1 clubhouse. She had arranged for us to meet Rick Alvarez and see his newly completed VP-1. You don't see many new Volksplanes (as they were originally called - until Volkswagen complained), but this one turned out to be the jewel Jan had said it was. I interviewed Rick for an article so you will be reading all about it in a future issue.

P-51s, RV-6As, Ryan SCWs And Such

The following day, Ken and I had to go against our instincts and resort to lowly ground transportation, but we had no choice: there was no airport where we were going. The Los Angeles basin is the entrepreneur's heaven-on-earth. Everywhere

you look you see little strip malls with every kind of retail and service businesses imaginable. Likewise, there are endless small business parks with rental spaces for those who want to start a manufacturing concern of some sort. Our destination for the day was one of these parks and a visit with Murdo Cameron and his all-carbon, full scale P-51 project. Murdo, who is an airline pilot, has been working on this sideline for some ten years, but now finds himself in one of those classic rock and a hard place situations. He has built high temp molds for all the airframe parts and has built parts for two Mustangs, but now is in great need of building a bunch more of them. What has happened is that composite material manufacturers and suppliers have been very generous in providing him samples and overruns of very expensive high tech pre-preg materials. Unfortunately, they have to be refrigerated and, even then, have a limited shelf life. Murdo currently has the stuff stored in a huge refrigerated cargo container - the kind used on cargo ships - that he had placed in one end of his shop, but the clock is ticking. He needs to spend about 8 or 10 months using it up making parts, otherwise he is going to have a very large pile of virtually indestructable trash on his hands. Trouble is, he'd rather spend that time making airplanes out of those two sets of already completed parts. With the investment the composite materials represent, he knows he is going to have to spend his time making more parts, so he is looking for outside help to build up the two Mustangs. He's looking for a skilled composite worker (or shop) capable of accomplishing such a task and will give one of the completed airframes for the labor on the other. Anyone seriously interested in such a deal can contact Murdo Cameron by calling 310/769-1690 (Fax: 310/640-8490).

Murdo Cameron amid his full-scale P-51 tooling and a couple of T53 turboprop engines.

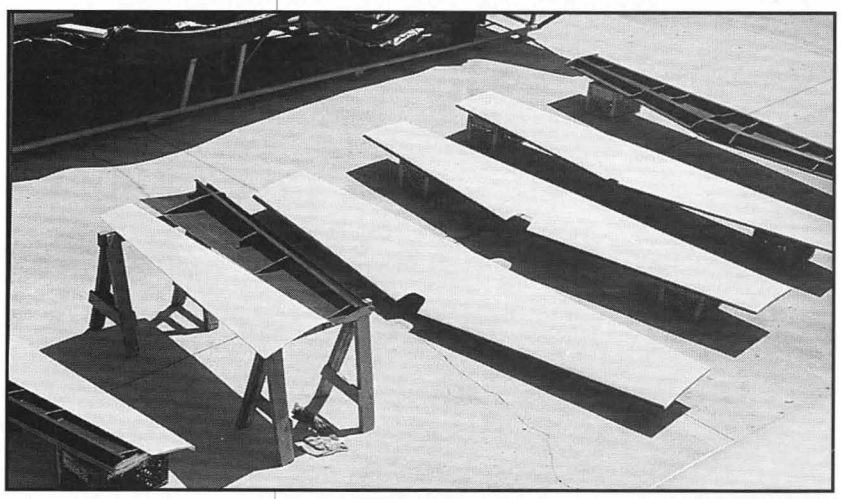
Murdo gave Ken and me a tour of his shop and we were mightly impressed with the tooling he had built. When you are accustomed to visiting homebuilder's shops, it comes as something of a shock to see the size of the tools needed to build a full size Mustang. The wing tool, particularly, is huge! We don't ordinarily think of a Mustang as an especially large airplane, but when you stand along side a fuselage sitting on ground level, you quickly realize it is one heck of a lot larger than a Lancair or Glasair.

In showing us around, Murdo pointed out that his Mustang was not patterned after the familiar D model, which was the variant produced in the greatest number during World War II. Rather, his has elements of the lightweight G model fuselage, and uses the H model's more efficent wing. The wing will have the D and earlier models' crank in the leading edge at the root, however.

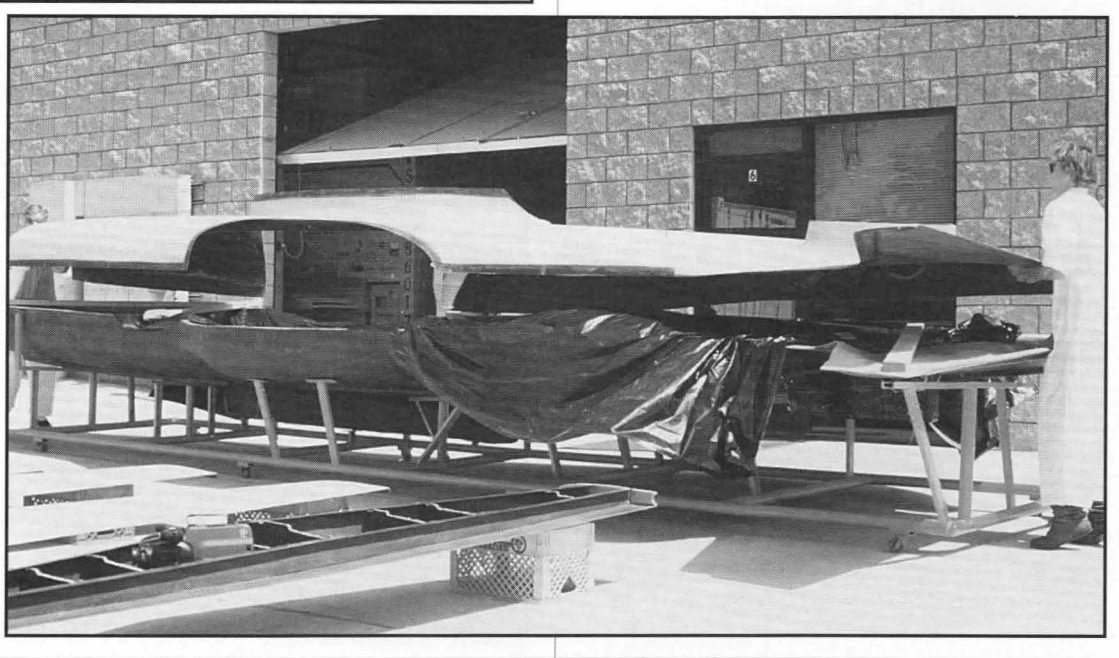
The biggest difference in Murdo's Mustang is in the choice of an engine. He intends to bypass the Rolls-Royce Merlin altogether and use a Lycoming T53 turboprop engine instead. The T53 is best known as the powerplant for the Bell Huey helicopter, but also powered such fixed wing craft as the OV-1D Mohawk. Interestingly, the T53 was designed for Lycoming by Dr. Anselm Franz who had earlier designed the Junkers Jumo 004 for the Messerschmitt Me. 262 fighter of World War II infamy.

The T53 is a desirable choice, Murdo insists, because it is readily available - they've been around since the mid-1950s and over 19,000 have been built - and it weighs just over 600 pounds. With its all-carbon structure, Murdo's Mustang is expected to weigh only about a third as much as a P-51D, so a lightweight engine like the T53 fits like a glove. Another factor is reliability. Having flown turbine engines in airliners for so long (he flies the Boeing 767 today), Murdo is no longer enthralled with the piston engine, preferring the durability and reliability of the turboprop and pure jet engine instead.

Presently, the landing gear is one of the big holdups for the project. A stock P-51 gear would be much too heavy, so Murdo is looking at either an existing light twin main gear, as John Sandburg and Bruce Boland did when designing the **Tsunami**, or having a new one designed and built. Without a



Murdo has built hard tooling for all the molded parts of the Mustang airframe. Photos courtesy Murdo Cameron.



Top. Pat Condon and Earl Ody.
Right, middle. A part of the RV-6A tail kit laid out for inventory.
Right, bottom. The remainder of the tail kit, with the wooden jig for the RV-6A in the background.

fist full of orders, a new gear would be very, very expensive, so a light twin gear is the likely pick.

Cost is, indeed, the overriding factor in the entire project. Good Mustangs are bringing in the neighborhood of three quarters of a million dollars today, but Murdo believes he can produce his all-carbon airframes for around $150,000 or slightly less. With a T53 and the kind of avionics one would want in such an airplane, he figures the ready-to-fly price would be about $350,000, just half the going price for a 50 year old original.

After leaving Murdo Cameron's shop, Ken and I decided to stop by the Torrance, CA airport to see if Earl Ody and Pat Condon were working on their newly purchased RV-6A kit. They recently sold their T-18, but just couldn't stay away from the building process. Both have led busy, productive lives since their teenage years and now, in retirement, they simply can't sit down in front of the boob tube and vegetate.

Luckily, we caught them in their hangar/shop and were able to see the new goodies. They had ordered the tail kit as a start and had it laid out on the hangar floor for inventory before beginning to smash rivets. Having built two T-18s, the second one with Pat's assistance, Earl is a great proponent of John Thorp's design, but was admittedly amazed at how far the modern kit airplane has come. The T-18 was an early 1960s design and was a great advance at the time. Thorp's matched hole concept was new to homebuilding and saved a lot of construction time, and after a while, the A-frame landing gear and all the fittings and weldments were made available from Ken Brock Manufacturing . . . but, still, the builder was expected to do a lot of scrounging around for hardware and other components.

Earl was simply amazed at what he had received from Van's Aircraft. Everything was there: finished ribs, prepunched skins, the molded fiberglass tips, etc. All the hardware was separated in little bags and labelled as to its use, and the building instructions were explicit virtually to the extreme for experienced builders like Pat and Earl. Able to work nearly full time on the project, they had budgeted about two years for completion of their RV-6A, but after going over the tail kit, Earl was already wondering if it would really take that long.

While visiting with Pat and Earl, we also had the opportunity to meet one of their hangar neighbors, Gary Papas. Although I had never met him, I was familiar with his name - and the fact that he had once owned a Ryan SCW that had been converted to a flat engine. To my pleasant surprise, I found he still owned it and, better yet, it was just a couple of hangars away. Of course, we had to have a look, and, in the process, found that he had still another rare bird in his hangar, a civilian version of the Bell 47 helicopter. It was the first one I'd ever seen - a pretty slick looking machine for its day.

Corona and Chino

On Wednesday morning a little maintenance had to be done on the starter of the Brock's Stinson 108, so I took the time to visit with Don Sauser, who had moved his Curtiss P-6E project from his home to the Corona Airport since my last trip to California. As most of you know, Ken and I have been visiting Don every spring for several years now, watching the airplane progress from a bare bones fuselage to the stage you see in the accompanying photos. The fuselage was complete when I saw it in early June of this year - to the extent that Don was able to roll it out, fire up the 350 Chevy and taxi it around on the ramp for my camera. That, of course, means he has the engine and all its systems working and has the brakes functioning properly. The direct drive Chevy fired up just like it does in a car and really sounded great through the "12 cylinder" exhaust system Don has built up to retain the look of a Curtiss Conqueror - in 82% scale. He leaned on the throttle pretty heavily a couple of times and the thing sounded like a sprint car digging its way out of a turn. It's not excessively loud - it just

Gary Papas and his flat engine Ryan SCW.

sounds mean

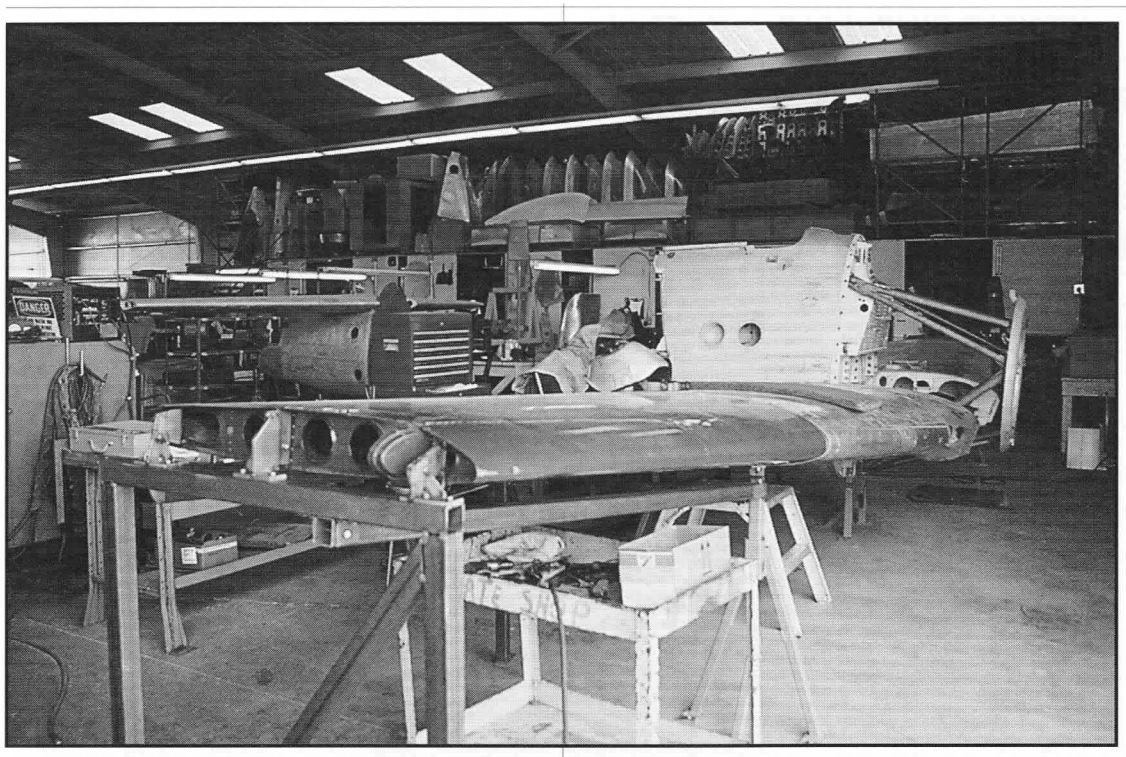
The lower wings were completed, painted and ready for installation at the time of my visit, so all the basic structure that remained was the one-piece top wing. Don didn't have room in his garage to build the wing in one piece so he built it in halves and spliced them together when he moved the project to the airport. He was finishing up some detail work on the cockpit cutout while I was there.

It was hot . . . nearly or exceeding 100 degrees . . . every day we were in California this year, but Don was out there in his hangar plugging away each time we drove by. He is determined to fly the Hawk this summer or early fall and hopes to be able to fly it to the Copperstate EAA Fly-In in early October. We plan to be there, as usual, so I hope he makes it.

Don has recently begun writing a bi-monthly newsletter on his Hawk project. In them he has detailed the reasons for choosing 82% as his design scale and his choice of the Chevy H.O. 350 direct drive engine. Future issues will cover the construction details, flight testing, kit availability, etc. Very well written, the six annual issues cost $12.00. To order your subscription, send your check to Sauser Aircraft Company, 13101 Ranchwood Rd., Tustin, CA 92680. Don's phone is 714/544-9015.

Later in the day, Ken and I dashed over to the nearby Chino Airport to see what was going on and were immediately struck by the fact that we would no longer be able to visit with the Sanders family. Brian, Dennis, their mother, Ruth, and stepfather, Sandy, have all moved north to new facilities at

Right. Don Sauser and the upper wing of his P-6E.
Bottom. Don having more fun than the law ought to allow taxiing around the ramp at Corona. That Chevy V-8 really sounds great!



The wing and parts of the fuselage of Elmer Ward's Grumman Bearcat "Gulfhawk the 4th" jigged up for rebuild of the missing sections.

Ione, California. We weren't able to visit them there this year, but we hope to in the future.

Another change since my last visit to Chino was Elmer Ward's formation of a new company, Square 1 Aviation, and a move from the row hangar area to one of the large hangars on the ramp. Mustangs are Elmer's business and several were under construction and/or rebuild in the shop, including a mirror finish, polished beauty for former astronaut Frank Borman. We had come to check on the progress of the rebuild of Elmer's Grumman Bearcat, the Gulfhawk the 4th,however. Ken and I had followed the construction of the airplane at the old shop, and I had the pleasure of writing an article about it (and Elmer) for the January 1993 issue of ***Sport Aviation***. Unfortunately, it was badly damaged when the engine quit on take-off at Oshkosh '93, but is being built up a second time now. We found the airplane - at least parts of it - at the back of the shop jigged up firmly in position so as to allow the missing damaged sections to be rebuilt in place. Elmer was away from the shop that day, so we did not learn what kind of schedule he has set up for completion of the airplane. Painted up in Al Williams' famous Gulfhawk orange, white and blue, Elmer's Bearcat was the most spectacular warbird flying. Everyone wants to see it flying again, so we hope it is on a fast track

After looking over a very accurate appearing scaled-down P-40 that, amazingly, has been gathering dust in a Chino T-hangar for years, we drove back to the row hangar area and had an enjoyable visit with Chuck Pozanac. Chuck specializes in building new wings for Stearmans and does absolutely beautiful work. Actually, he will build wood wings for any airplane, so if you want top quality work for your project, call Chuck at 909/789-0539.

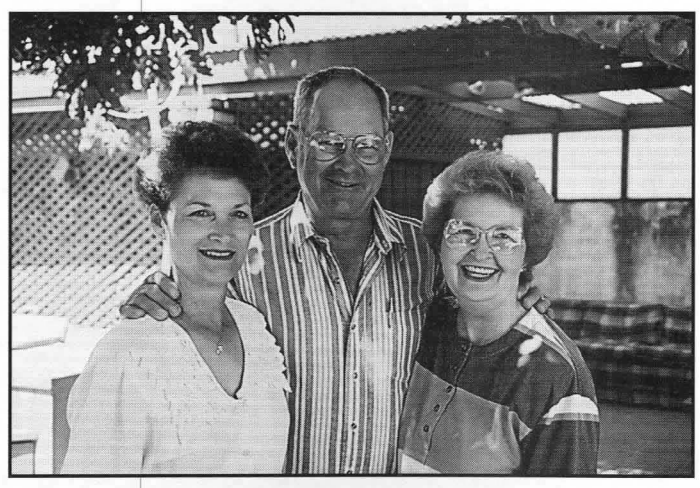
After our tour of the Chino Airport, Ken and I drove to Fernando Ramos' home and shop to see his Bellanca Cruisair restoration project, which you can read about elsewhere in this issue.

Chuck Pozanac and one of his beautifully crafted Stearman wings.

Merced '96

On Thursday, the Brocks and Coxes loaded up Ken and Marie's beautiful Stinson 108-3 and launched for Merced. As Ken likes to joke to friends, it's a two-day trip in a Stinson, with an overnight at Bakersfield. Actually, that's a gross insult to his big-engined bird; in reality we like to relax for an afternoon and enjoy dinner at our favorite Basque restaurant.

Up early the next morning, we flew on in perfect conditions to Merced, got a parking spot in the Classic display area and settled in to enjoy a weekend of fly-in fun. It was very hot in the afternoon each day, but you just have to drink a lot of water and keep on ogling those airplanes. I didn't come half way across the country to cower in the shade of a hangar, but I did notice that the pilots I interviewed either had a can of soda in their hand or were casting anxious looks in the direction of the refreshment stands before we were through talking.



Left to right. Marie Brock, Ken Brock and Golda Cox in California in June of 1996.

Alan Buchner was the big West Coast winner this year. His magnificent red and silver Waco QDC won the top award at Watsonville, then repeated the feat at Merced. Completed too late for the spring fly-ins in California last year, Alan made Oshkosh '95, Copperstate '95 and other late season events, winning big at all of them. This spring he finally had the opportunity to show off his handiwork to the homefolks (he's from Fresno), and they rewarded him with their top trophies. Alan is, of course, well known to readers of this magazine. We've covered his PT-22 and Culver V in past issues, and were pleased to see an "alumnus" doing well again. The

Waco is a stunning example of the restoration art.

Klaus Heddergott of Mariposa, CA won the top award for homebuilts at Merced '96 for his beautifully crafted RV-6, and he, too, has been a big winner on the West Coast this summer. In July, he picked up a grand champion trophy at the Arlington EAA Fly-In.

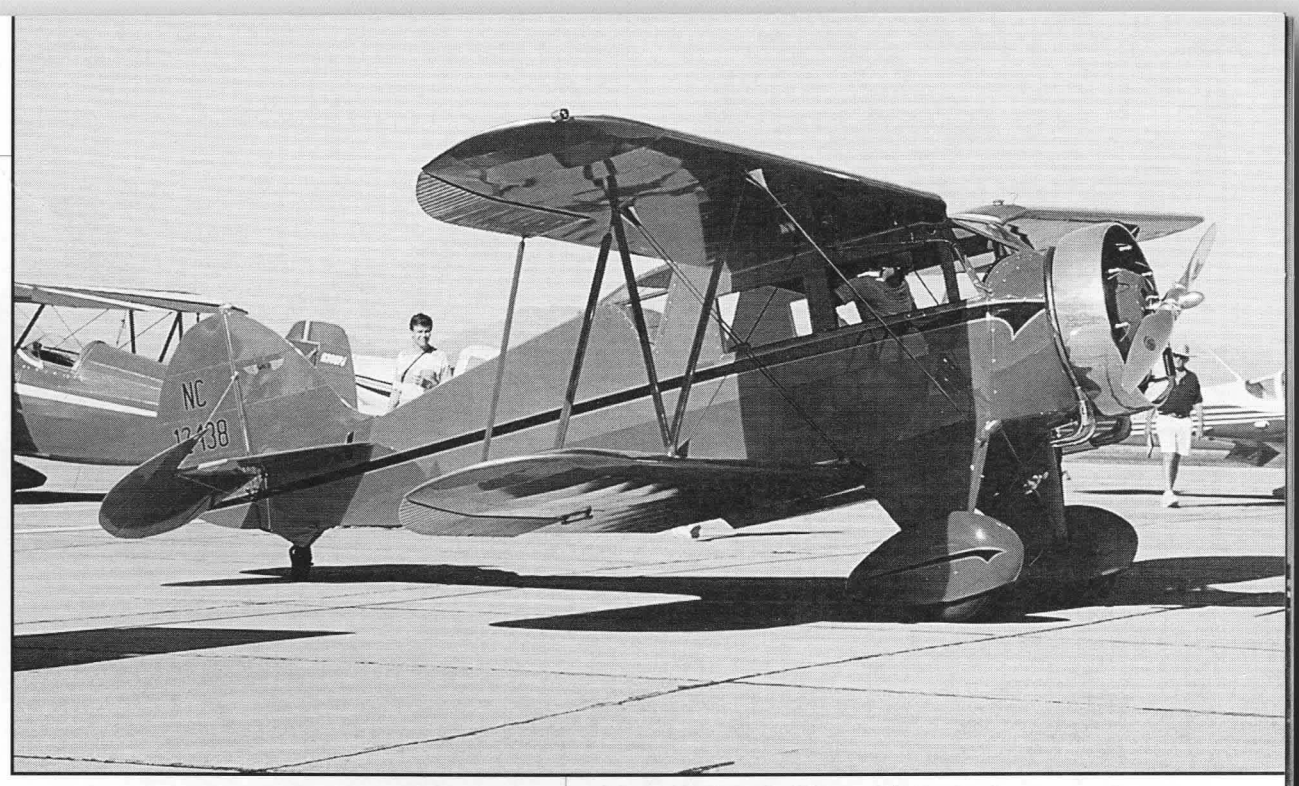
Homeward Bound

As always, Golda and I thoroughly enjoyed our annual sojourn to California . . . thanks in great part to our friends and gracious hosts, Ken and Marie Brock. And as always, Ken and I simply ran out of time before we were able to get around to everyone we would have liked to have visited. That would have taken all summer, however, and since both of us are still gainfully employed, we finally had to call it a week. We hope to visit more of you next year.

CRUISIN' CAROLINA

Unfortunately, Golda and I were unable to attend the EAA Antique/Classic Chapter 3 Fly-In at Roanoke Rapids, NC this year. It is always held the first weekend in May, but with Sun 'n Fun a week later than normal this year, we simply couldn't get away again so quickly. We did travel to North Carolina in early July, and I had the opportunity to do a little aviating. Jim Zazas flew his Luscombe 8A from Southern Pines, NC to pick me up at Jeff Smith's private airport at Grantville, NC and we made a short hop over to the Asheboro Municipal Airport to see the new warbird museum that opened there this past spring. Called the Foundation for Aircraft Conservation, the museum is housed in a large new metal hangar with a nice gift shop built into one corner. At the time of our visit, the aircraft on display consisted of a BT-13, T-6, Cessna 0-2, T-28, Piper J-3 "Flitfire", Stearman, Cessna Bird Dog and a Grumman Avenger.

Jim Zazas had just returned from another of his transcontinental cruises in his Luscombe - in fact, had stopped by Oshkosh the week before. From there he had flown to Lock Haven for the Sentimental Journey event at the old Piper plant and airport before heading home to Southern Pines. The trip had begun a couple of months earlier and had seen him fly across the U. S. to Columbia, CA to attend the Luscombe Fly-In, then up the Pacific Coast to Washington, out across the Northwest to Montana and into Canada. He was heading for Hudson Bay but received a call from the Collins Foundation flight crew asking him to return to the Portland, OR area to help them complete a tour with their B-17 and B-24.



Alan Buchner's Waco QDC, the top award winner at both Watsonville and Merced '96.

Not one to miss the opportunity to fly those historic birds, he hightailed it back across the Rockies and began logging heavy time . . . and sharing in the wrench duties so necessary in keeping the old bombers flying.

This was Jim's second straight spring adventure in his trusty Luscombe. Last year he flew from North Carolina to the Luscombe Fly-In in California, then kept on goosing his little Continental until it had carried him all the way to Point Barrow, Alaska. Next spring? Who knows - but I don't think he has been to Tierra del Fuego yet.

Jim Zazas and his continent-roaming Luscombe 8A. He's flown it all over North America in the past two years.

SPORTSMAN PILOT PROFILE

FERNANDO RAMOS

Fernando Ramos is all smiles these days. He retired in June of 1995 after a 37 year career as a teacher in Anaheim, California and now, at long last, is able to devote almost all his time to his hobbies: building and flying airplanes. In Fernando's case, "airplanes" needs some elaboration. He is an internationally known modeler, has built two Marquart Chargers and is currently restoring his 1949 Bellanca Cruisair.

There are modelers, there are modeling fanatics . . . and then there is Fernando! Most of us start a model, work on it until it's finished, crash it and start another. Fernando has no idea how many models he has in one stage of construction or another. He's like an alcoholic who has booze stashed everywhere he normally goes so there is no chance he will be caught without a drink. He has models in his home, in the barn he has converted to a workshop and even in his hangar. Each location has a workbench littered with the appropriate tools and materials, and on each of them are a bunch of models that are perhaps 10 to 20 percent completed. Depending on whatever strikes his fancy on a given day, he can sit down and begin cutting or glueing balsa without a moment's hesitation - on all sorts of airplanes. Fernando's favorites are scale models of World War I military types and civilian lightplanes of the 1920s and 1930s, so if on Tuesday afternoon at 3:00 p.m. he's in an Active Arrow mood, he'll work on one . . . and then on Wednesday at 10:00 a.m. if he is out at his hangar polishing his Marquart Charger and he gets an urge to cut out a few ribs for the upper wing of a Sopwith Triplane, then he'll just do it.

Talk about living in hog heaven!

Now, don't think for a moment that I'm exaggerating here. Look closely at the photo of Fernando and Ken Brock I took in Fernando's barn/workshop. As you can see, there are models hanging from the ceiling and the walls, they are all over his work benches, they are on the floor . . . and, yes, they are all over and inside his Bellanca fuselage! His T-hangar is the same way. There's just enough room to ease the Charger in and out, if you're very careful where you step.

Remarkably, most of Fernando's models are scratch-built, which, of course, takes more time and cogitation than building from kits. That means a lot of research, so when he is not building, he often has his nose in an aviation book or magazine scoping out dimensions, paint schemes, markings, etc. Also remarkable is the fact that unlike most of us, when Fernando has one of his models crash, he rebuilds it. One of the reasons he has so many models is that he still has almost every one he ever built - and every one of them has a story behind it. Fernando can literally tell you the story of his life through his models - this one was built the year he graduated from high school; that one the year he and his wife, Kay, were married; and those two the years his sons were born, etc.

Fernando was born in Orange, CA in November of 1934, grew up in Anaheim and has lived there all his life. He graduated from Whittier College in 1957 and began teaching junior high science that fall. After 17 years he switched to teaching chemistry and biology on the high school level and completed 20 years in that position before retiring last year.

Fernando's aviation affliction was contracted at the tender age of four while on a family trip to San Diego. By chance, his father cruised his 1938 Pontiac by Lindbergh Field and, as fate would have it, there happened to be three pristine Ryan STAs sitting on the ramp with their noses turned toward the street. It was infection at first sight, with the incurable disease instantly invading

every fiber of his being, then and forever more.

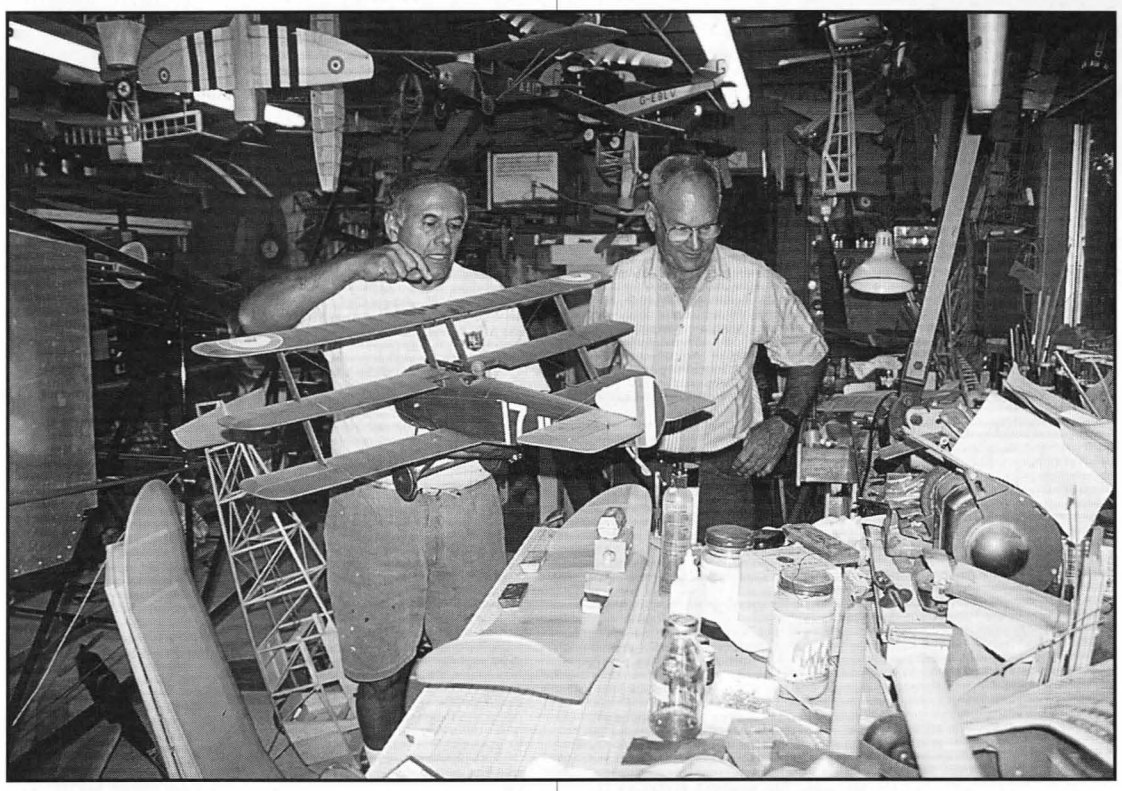
Models sufficed until Fernando was 16, but shortly after reaching the legal age, he had a friend with a 1928 Chevy drive him to a little dirt strip nearby where he took his first flying lesson - in a Luscombe.

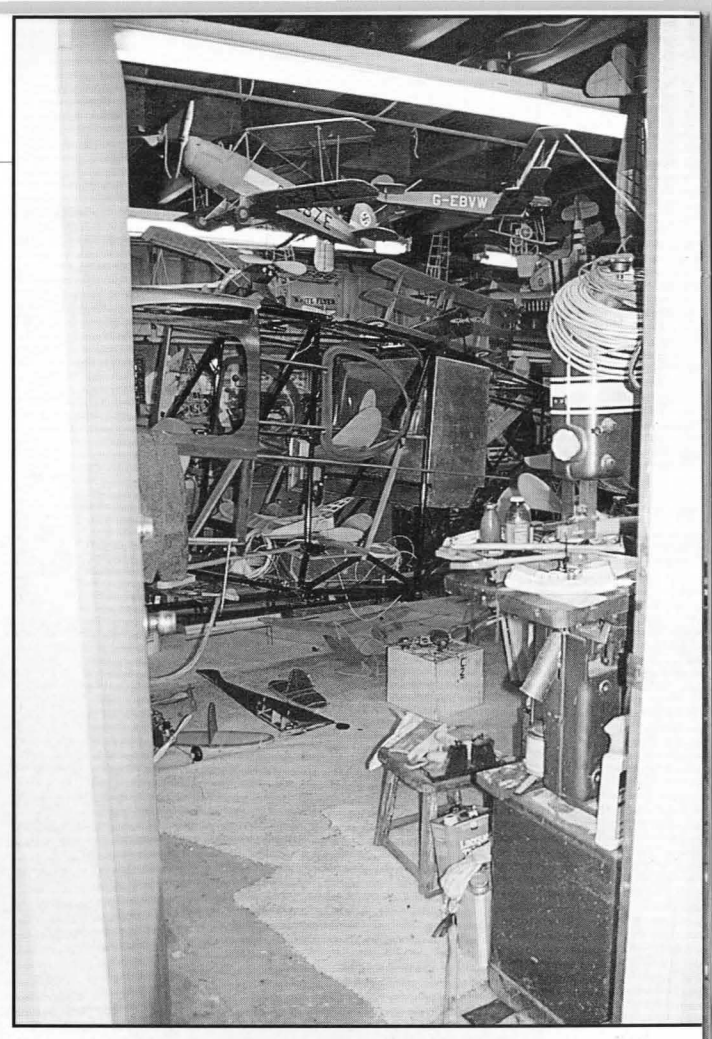
A little later he began taking lessons on a regular basis at the Fullerton Airport and soloed there in 1951 in a Luscombe. He also worked for a time at Fullerton as a "prop boy" - in the days when line personnel still propped airplanes.

Meanwhile, Fernando's modeling continued, growing more sophisticated as time went by and he gained experience - but only to a point. Although he built and flew both diesel and gasoline powered radio controlled models, he found that free flight intrigued and challenged him most. Modern RC is so highly developed that control is essentially as complete as that enjoyed by a pilot in a full size airplane . . . and, perhaps, that was the problem for Fernando. There is no greater sense of wonderment, no thrill so fascinating for a young person afflicted with the airplane disease than having that first successful rubber band model go throbbing from his or her hand . . . and actually FLY! With free flight there is always the element of unpredictably - almost like setting a pet bird free and wondering if it will return to you. Fernando missed that elemental wonderment when he progressed to the more sophisticated level of modeling and he periodically found himself returning to free flight in an attempt to recapture it. Finally, he realized he had discovered the niche that gave him the greatest satisfaction and sense of accomplishment, and he has literally become Mr. Free Flight in the model airplane world for those who have had the pleasure of making his acquaintance or reading his long-running column in **Model Builder** magazine.

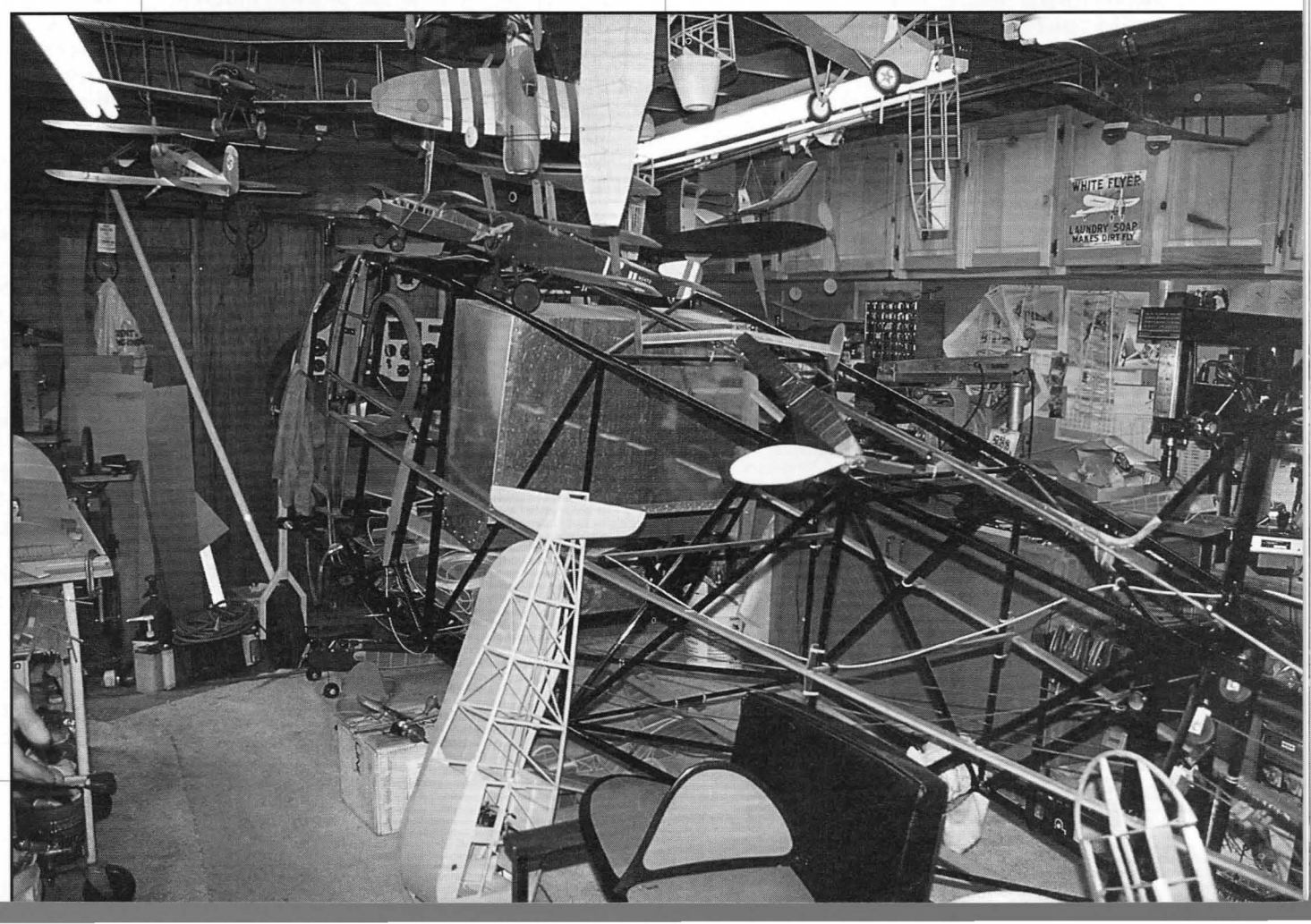
In retrospect it may have been because Fernando has also been a pilot and builder/restorer of full size airplanes that he has remained so devoted to free flight modeling over the years - sort of enjoying the best of both worlds - but, in any case, his van's license plate tells you where his heart is today.

For many years Fernando's modeling was limited to his workbench and neighborhood fields and vacant lots . . . in those halcyon days before the Los Angeles basin became a relentless sea of urban sprawl. In the 1960s, however, he began to get involved in model competition and had his horizons widened considerably. Eventually, he became a judge for the Academy of Model Aeronautics (AMA) and began travelling to the NATS (the national contests). For many years the NATS were sponsored by the U.S. Navy and held at the Glenview NAS in Chicago. As a judge, this gave Fernando the opportunity to ride from Los Angeles to Chicago (and, later, Lake





Above. Your first look through the door of Fernando's shop reveals a part of his Bellanca fuselage - festooned with model airplanes.
Left. A turn to the right and you see Fernando, left, and Ken Brock - and scads more models.
Below. From the other end of the shop, a long view of the Bellanca fuselage - decorated like a Christmas tree with airplane "ornaments."



Charles, Louisiana) aboard Navy transports. Usually the pilots were weekend warriors who would allow him to climb into the right seat and wrestle the big four engine Douglases across the desolate reaches of West Texas or endless wheat fields of the Great Plains. Except for the chain smoking of the pilots and passengers that was common then, those were exciting adventures for a lightplane pilot like Fernando.

It was also during this period that Bill Northrop founded **Model Builder** magazine and asked Fernando to write a column on scale modeling. He accepted the invitation and would become a part of the lives of thousands of modelers from all over the world for the next 17 years.

In 1967 Fernando participated in the NATS, competing with a Bücker Jungmann model he had built. After returning home, he drove out to the FlaBob Airport and had his first look at the prototype Marquart Charger, which Ed Marquart had assembled to check for fit of the various airframe components before covering.

"I'm a sucker for swept wings on anything," Fernando laughs, "including old time rubber models, and when I saw that Charger, it was just love at first sight. I thought, my gosh, that's like a big model airplane. I could build that. Well, one thing led to another and, eventually, I started building a Marquart Charger. That was in 1973."

Ironically, the push that Fernando needed to get the project under way was a grass fire that raged through his neighborhood, destroying some 50 homes. Fortunately, his home was spared, but he and his family did lose some outbuildings. Afterwards, he rebuilt a barn, which was actually sized and configured to serve as a shop for his model building and the homebuilt project he wanted to start. As it turned out, the Marquart Charger was the first project to be built there.

"Probably the greatest thing about building the Charger was the education I got out of it. I had to learn how to weld, work with aluminum, do riveting and, of course, covering. That was the easiest part of the whole project. It was like covering a giant model airplane."

Initially, Fernando cut and fitted the tubes for the fuselage, tack welded it, then hauled it off to Ed Marquart's shop to have him do the finish welding. Eventually, he gained enough experience and confidence to do the last of the finish welding himself. The wood wings were quite literally just big model airplane structures to Fernando and posed no real challenge or even much in the way of education. He was very much at home working with wood and glues.

At the start of the project, he intended to install a converted Lycoming GPU in his Charger, but one day a friend and fellow Charger builder offered him an alternate deal he could not refuse - a six-cylinder, 125 h.p. Continental and an Aeromatic variable pitch propeller for $1,100. The prototype Charger was powered with the same type engine, so the engine mount, cowling and hook-up details had already been worked out and proven in service - thus, Fernando ended up buying the Continental and installing it in his Charger.

It's interesting for Fernando to look back on his mid-1970s project and consider how inflation has increased prices. He bought the MacWhyte flying and landing wires through Ken Brock Manufacturing for aroung $700. Today, MacWhyte charges about three times as much for the same set of wires. At the time, Fernando had the option of buying Gerdes wheels and brakes for $90.00 or Clevelands for $150, so he opted for the Gerdes. 16 or 17 years later, he had to replace one of the brake discs and found that Gerdes had been bought out by Cleveland and the old parts were no longer available. He had no choice but to buy a new set of Clevelands for about $400. His Lang tailwheel was purchased from Aircraft Spruce for $65.00, but that has turned out to be a great buy. The tailwheel assembly has proven to be an excellent choice for the Charger and parts are still available. The prices are many times greater today, of course, but, then, he hasn't needed many along the way.

Fernando's one-piece Plexiglas™ windshields, bent into three flat segments, give the Charger the vintage look he wanted to achieve. He built up a plywood form, took it to a company that made windshields for conversion vans and had his two Charger windshields drape-formed over it. The mid-70s charge for the service was just $10.00. Years later, he had a second set made, and the charge was a case of beer.

The Stits process was used to cover the airplane and was perhaps the only area where Fernando purposely accepted a modest weight gain. Experienced modeler that he was, he had been very conscious of weight throughout the course of the project and resisted such temptations as IFR panels, fully upholstered cockpits, etc. When it came to applying the color coats of paint, he did compromise a bit, however. He wanted to paint the airplane red overall, but he knew the red would darken toward maroon if he applied the final coats over silver. Consequently, he initially sprayed on a light coat of white paint, then applied the red. Just as he had hoped, the underlying white made the red remain red - as it has to this day.

It took Fernando five and a half years of evenings and weekends to complete his Charger, but, finally, the big day came when it was time to load it up and haul it to the FlaBob Airport. He had a hangar at the Corona Airport by this time, but wanted to

have designer Ed Marquart make a final inspection and rigging check before his biplane was committed to flight.

"After we got it put together, we rolled it over to Ed's hangar and put it up in the level flight attitude. In less than half an hour, Ed tweaked this, that and the other - and that's all it took."

On the day of the first flight, Fernando was in no condition to play test pilot. After five and a half years of blood, sweat and tears, he was a nervous wreck, and was grateful (and smart) to be able to turn over the task to his good friend, Walt Mooney. Walt was a fellow modeler, an aeronautical engineer and an experienced pilot, so Fernando knew his airplane could not be in better hands.

"When he landed after the first flight, I asked him if I had to change anything and he said, 'No, leave it the way it is. It's perfect.' That was good enough for me."

That Thanksgiving weekend of 1978 was quite eventful at little ol' FlaBob Airport. It was the same weekend Bill Turner made the first flight of his Gee Bee Z. The day after its first flight, Fernando's Charger was flown to the nearby Corona Airport where it has been based ever since.

After making his own first flight in the Charger, Fernando built up his time and confidence and flew it to Oshkosh in 1979. It was quite an adventure, as well as a test of personal endurance, to fly an open cockpit biplane that far, but among the rewards for the effort was a Best Continental Engine Installation award and an accompanying check for $100. He made the trip to Oshkosh again in 1981, this time by the northern route through Utah and Wyoming, but decided that was enough long distance touring for a while. Since then, he has been content to fly the Charger locally and to take it to area and regional fly-ins, such as Merced where the Charger pictures you see here were taken. Although it has been completed for nearly 18 years, Fernando has flown his Charger just 415 hours, which is an average of 23 hours per year. The fact that he has had another airplane to fly has cut into the time the Charger might have otherwise been flown, but even so, 23 hours per year of day VFR is not far off the typical annual utilization for homebuilts flown purely for fun. That goes against the grain of the FAA's regulatory assumption that lightplanes are principally used as all-weather vehicles for revenue-producing business travel. For the vast majority of individual aircraft owner/pilots, that has never been the case and never will be. Unfortunately, the current 15 year decline in general aviation activity is the price being paid for those erroneous FAA (and industry) assumptions. To its credit, the FAA is finally recognizing its past errors and is making changes in the form of the Recreational pilot's license and the various new simplified certification procedures for small training and sport aircraft. It may be a case of too little too late for the lightplane industry, but homebuilders and restorers like Fernando will always be around to keep the dream of personal flight alive.

About the time the Charger was completed, Fernando entered still another phase of his model airplane activity. The Flying Aces Association was created in the late 1970s and its focus on World War I and other old-time free-flight models was right up his alley. He builds a new model specifically for the Flying Aces nationals each year and has been quite successful with them. Some time ago, Fernando developed his own version of a pendulum actuated wing leveler for his free flight models, and, as a result, nice big smooth circles have become something of a trademark of his airplanes.

Then there was the second Marquart Charger. One day Fernando took a former student for a ride in his Charger and the younger man became so enthralled with the airplane that he started building one himself. After completing the ribs, however, the enormity of the task became all too apparent, and, eventually, Fernando was asked if he would be interested in completing the project. By chance, that very day a 1949 Bellanca Cruisair landed at Corona for fuel, and since it had always been one of Fernando's favorite airplanes, he had to stroll out to the gas pumps and look it over. To his pleasant surprise, it was for sale at an altogether acceptable price - so, that night he lay awake dreaming up creative ways of financing a second airplane. In the end, he made a deal in which his former student would buy him the Bellanca in exchange for building the Charger - and with remarkable suddenness, Fernando found himself the owner of a fine old cross country airplane, as well as an open cockpit, strictly fun machine.

With two airplanes to fly and all those models to build, not to mention his full-time teaching job, it took Fernando eight years to complete the second Charger, even though a lot of the components were now available from Ken Brock Manufacturing. Fortunately, his former student was patient, and was really pleased with the Charger once it was finally completed.

A few years ago, Fernando pulled out the Bellanca's 165 Franklin and overhauled it, but then the airframe began sending him messages that indicated it, too, was in need of rejuvenation. Two years ago he finally bit the bullet and dismantled the Bellanca for a frame-up restoration. So far, the fuselage has been sandblasted and powdercoated, all the wood has been replaced and a new windshield and instrument panel have been made. At the time of my visit this past June, the fuselage was still in Fernando's barn/shop behind his home - and, as previously noted, was serving as a convenient storage rack for scores of model airplanes! He admitted that he had been goofing off a bit since his retirement, but vowed to get back on the Bellanca this summer and get it completed. He will put the 165 Franklin back into the airplane initially, but hopes to eventually replace it with one of the new 220 Franklins available from Poland.

Looking back over the aviation phase of his life, Fernando says it has been a truly wonderful stream of experiences. In both the model airplane and full size airplane worlds, the greatest thing has been the like-minded people he has met.

"Everywhere I go, to the model airplane Nationals, to Oshkosh and other fly-ins, it's always the same. It's like visiting family. Everyone is interested in the same things you are, and they are all positive, enthusiastic types of people. Although I love them both, modeling has been a bigger part of my life than full size airplanes and as I grow older, that will probably be even more the case. It's like the old bumper sticker that says, 'So many women, so little time!' For me, there are so many models I want to build. We all have a certain amount of time here and I'm just trying to make hay while the sun shines. I just build, build, build, and now I have the time to take them out and fly them, which I didn't have when I was still teaching. It has been a tremendous amount of fun for me all my lifetime, and I'm really enjoying it to the max right now."

Many, many happy returns, Fernando . . . but let's get that Bellanca back into the air soon. You can build models when you are 102 - and you probably will!

THE DAVE MILLER/DICK TEWS

CESSNA BIRD DOG

The Cessna Bird Dog has been around forever, it seems. Actually, the prototype flew for the first time on December 14, 1949 and the first production model, the L-19A (later redesignated the O-1A), was delivered in December of 1950. Several different models were built over the years and they were used for a variety of tasks by about every military establishment in the non-communist world. They were used in anger in Korea and Vietnam and covered themselves with glory in the extremely dangerous role of target markers for Air Force fighter/bombers. They have also seen extensive service with the CAP, searching for downed civilian aircraft; with state forestry services for fire spotting - you name it, the Bird Dog has probably done it. Today, a good number of them have found their ways into civilian hands and have been authentically restored as warbirds.

The L-19E (O-1E) you see pictured here is one of the civilian warbirds, but it is unique in that the airframe is brand new. Every part, down to the smallest screw, had never flown when the airplane was signed off earlier this year. When the pictures you see here were taken at the Merced, CA Fly-In in early June, it had a total time of just 24.2 hours.

I could go on to say that the workmanship is absolutely superb, but, then, when I reveal that the Bird Dog is another product of the Dave Miller/Dick Tews partnership, that would simply be a bludgeoning of the obvious. They don't know how to build or restore an airplane any other way.

Ironically, the circumstances that led up to the building of the Bird Dog you see here could just as easily have been a tragedy rather than a success story. It all began with another L-19 that Dick Tews had purchased and that his partner, Dave Miller, was to have restored. Dave did indeed perform his accustomed feats of meticulous craftsmanship and was within a week of sending the airplane to the paint shop when he decided to do a final dry weight and balance calculation. Hauling out the same 50 gallon plastic barrel and metal funnel he had always used to defuel airplanes, he positioned them under one of the wing tanks and snapped on the quick drain. A little while later, he checked to see if that tank had emptied, and seeing that it was still draining, he turned to walk away. About two steps later, he heard a loud **who-o-o-sh** and turned to see the Bird Dog engulfed in flames! It was a hot August day in Redding, CA and the temperature in the hangar was probably 120° F, Dave recalls, so a lot of fuel vapor had been created by the raw gasoline draining into the plastic barrel. Unfortunately, the airplane had not been grounded when the defueling process had been initiated and, apparently, static electricity had done its evil deed and ignited the fuel vapors.

Dave tried to put the fire out and recalls frantically thinking, "I can fix it. I can fix it. I know I can fix it if I can get this fire out. But when the fuselage broke in two and fell into a molten puddle on the floor, I knew I probably couldn't fix it. When it was all over, I thought my friendship with Dick was over, but his first question was, 'Were you hurt?' I said no, and he said, 'Thank God - I can always get another airplane, but it's hard to find a good partner.' So, after we were all done with the tears and cleaning things up, he said, 'Why don't we get started on that SX300, and in your spare time, if you have any, why don't you see if you can find us another L-19.' '

The SX300 was, of course, the fabulous Merced/Sun 'n Fun/Oshkosh Grand Champion that was written up for the first time right here in ***Sportsman Pilot*** in our Summer 1993 issue. During its gestation, Dave did call around and eventually located Tony

Paine, an ex-Bird dog pilot in Vietnam and then a professor (since retired) at the University of Nevada/Reno. It turned out that Paine had been collecting Bird Dog parts for years, with the goal of building one up for himself, but had eventually decided to go on to other endeavors. Dave just happened to be the one who called at the right time, and in nothing flat he was in Reno inspecting the goodies. To his amazement, he found that most of the parts and components were military repair depot stores - factory new and still in their original mil spec containers, wrappings, etc. They were to have been used to rebuild damaged Bird Dogs, but had never been needed.

After looking over the parts, Dave called Dick and told him there was so much stuff that without a parts manual, he couldn't select what was needed for just a single airplane. Dick's response was to buy the whole cache then and sort it out later. As events transpired, it was a good decision because **two** Bird Dogs would eventually be built from the parts. That was well into the future, however, because after being hauled home to Redding, the Bird Dogs-to-be would remain in storage for the next seven years while the SX300 was being built.

After winning the ultimate awards available for homebuilt aircraft with the SX300, Dick and Dave turned their attention to the Bird Dog project, and decided to build up the two of them simultaneously - one for themselves and one for Lynn Miller.

Building up an airplane out of new surplus parts and components was a fascinating task, Dave says. Every package, container or whatnot he opened was like a time capsule that revealed the state of the art of aircraft preservation in the 1950s. It was pretty good, too, he found.

"They really knew how to preserve and protect things. Every item we opened was like the day it was made."

The only parts of the airplanes that had previously flown were the engines, and they were military overhauls. The engine used in the Miller/Tews Bird Dog had about 1,300 hours total time and zero since major overhaul.

"The only thing we did was remove the cylinders and install later model 4-ring pistons. When we looked inside, everything in the engine was obviously factory new. It is a real tribute to the manufacturer and the military pickling process to have an engine look so good after 30 years."

Most Bird Dogs came equipped with 213 h.p. Continental O-470-11 engines and fixed props, but some came with the O-470-15 and constant speed propellers. Both the Miller/Tews airplane and the one sold to Lynn Miller were equipped, via 337 approval, with the -15 engines and CS propellers. Outwardly, both Bird Dogs appear to be quite authentic. Both are finished in the white and red jungle/arctic paint scheme, and both contain all the original interior appointments - upholstery, first aid kits, etc. Closer examination, however, will reveal the custom touches one would expect of the team that created the Miller/Tews SX300. In the engine compartment, the same yellow engine mount, intake manifolds and polished stainless fuel lines can be found - none of which an errant drop of oil would dare besmirch.

Inside the cabin, the instrument panel is in the general shape of that of an A model L-19, but contains the very latest instrumentation and avionics, and is IFR certified. Another obvious custom touch can be seen in the shoulder harnesses. They have the original military fittings, but the belts, themselves, which were made by Jack Hooker, are trimmed in red to match the exterior paint trim. That exterior paint, incidentally, is Imron, but is an accurate color match, and all the markings are of the appropriate size and are in the proper locations.

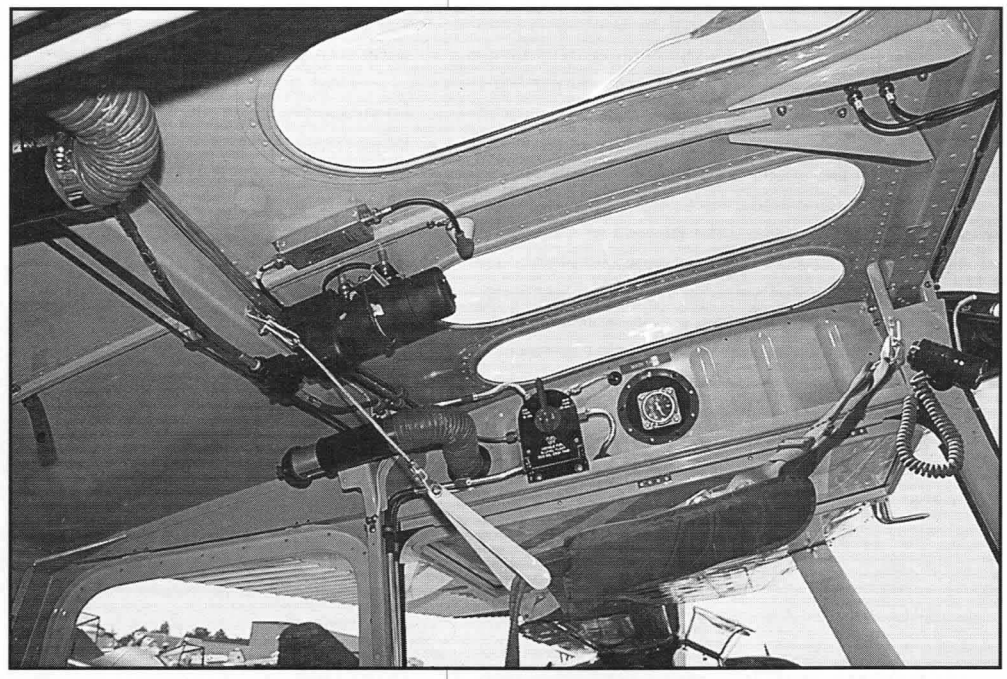
Dave Miller, left, and Dick Tews of Redding, CA - partners in a string of award winning showplanes.

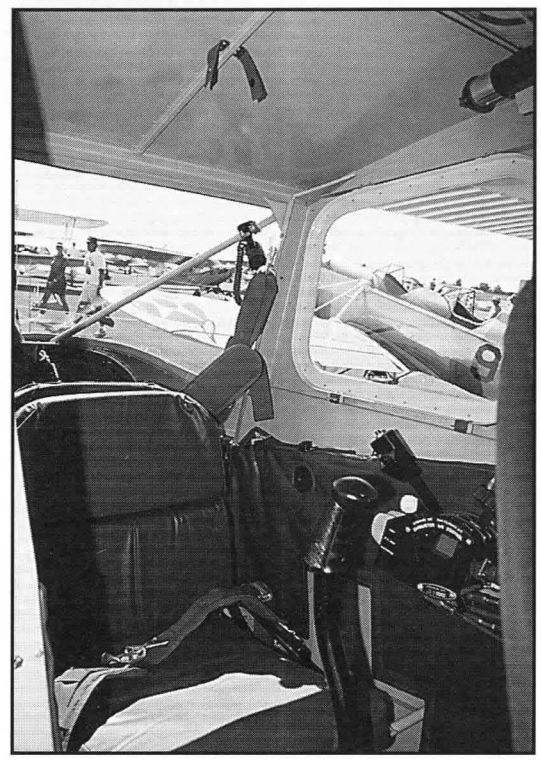
The French L-19s were fitted with fresh air vents on the sides of the fuselage, which gave Dave and Dick license to install similar Cessna 210 vents on their Bird Dog. On the 210 the air is carried into the cabin through a system of ductwork, but in the Bird Dog just a plastic screen covers the inside of the vent - to prevent the unpleasant possibility of having a wasp fly up your pant leg, Dave laughs. All the glass in the cabin was replaced, some of it with new military surplus and some newly made up to fit the original side window frames.

Systems-wise, the original wheels and brakes were replaced by modern 800 series Clevelands with dual pucks. Likewise, the manual Johnson bar flaps were converted to electric flaps, with the flap motor fully exposed, military style, in the cabin roof.

The Miller/Tews Bird Dog has been outwardly configured to be a flying communications center, which was one of the many roles the L-19/O-1s played. As such, it has antennas all over the airframe, including the horizontal tail, and they, too, are new military surplus that had never flown until fitted to this airplane.

When all the parts and components had been rebuilt and refinished to Dave's high standards, they were transported to Carson City, NV for final assembly, rigging, plumbing, wiring and STC approval by Weaver Aircraft. When completed, both Dick and Dave were pleasantly surprised to find that with the -15 engine and CS prop, their Bird Dog could be coaxed to a high cruise of





140 mph. That was with the airframe perfectly clean, however. When dirtied up with antennas, bomb racks, rocket rails, etc., the cruise drops to around 110 mph. What they like best is the visibility from the cabin, even over the nose in the three-point attitude. They are also singularly impressed with the effectiveness of the 60 degree Fowler flaps. To quote Dave, "With full flaps on, you better have dirt under you when you flare!" And that's with power.

So . . . still another super airplane has been produced by the Dave Miller/Dick Tews partnership - but it is not the last. Very shortly, they will roll out a Cessna 310 that Dave thinks is their best effort yet. It is in the military "Blue Canoe" configuration, but, of course, will have all the custom touches we've come to expect from their Redding, CA shop. Start by looking up in the wheel wells, Dave says, and we will begin to see how much has been done to this airplane.

Since all their airplane projects have been written up first here in ***Sportsman Pilot***, Dave says he and Dick will stop their hap-hazard selection of types and begin building whatever I want to write about. With the 310 nearing completion, I guess they will be wanting a selection soon, so . . . well . . . I'm thinking, **I'm thinking** !

STAN KAVRIK'S

SPARTAN EXECUTIVE

Today we roll our eyes in resignation when we're faced with the fact that a new, fully equipped A-36 Bonanza costs in the terrible vicinity of a half million dollars. That's terrible alright, but it's nothing new. The beautiful Spartan Executive you see pictured above sold for a base price of $23,500 in 1937. If you correlate that amount to the buying power it represents today, you'll be astonished to find it is the equal of about $470,000!

The Spartan was not alone in the mega buck category, either. In that same era the P&W R-985 powered Howard DGA 11 had a base price of $17,685, which equates to about $353,700 in today's debased currency; the Beech D-17S Staggerwing cost $18,870, or $377,400 today; and Stinson didn't even bother to quote a base price on its R-985 powered SR-10F. If you had to ask, you probably couldn't afford it.

We have to keep in mind that all these aircraft, the big R-985 powered bruisers of the '30s and Beech . . . er, Raytheon's current top of the line singles were and are today intended to be business tools. All aircraft of this type have traditionally been priced with the expectation that they would be written off as a business expense by companies that had legitimate ways to make them pay for themselves. Sure, a few might be bought as toys by very wealthy individuals, but that was simply frosting on the cake. It was not really a make or break part of the marketing plan.

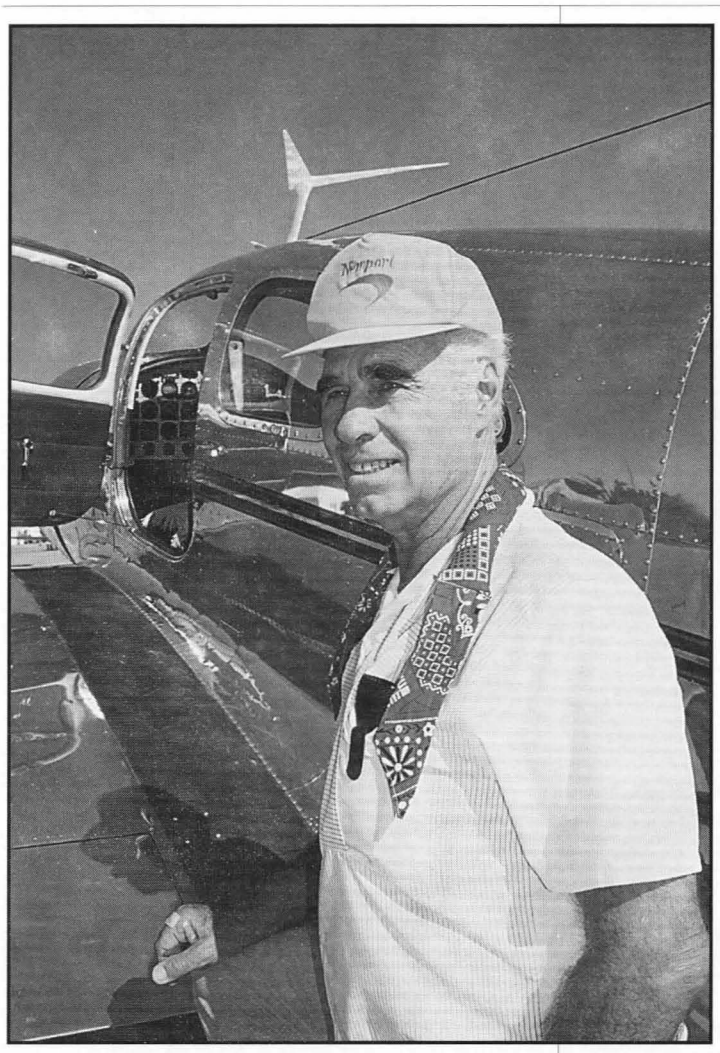
After World War II, the Bonanza, Navion and, later, the light twins came along and were found capable of flying the same missions more efficiently than the big 450 h.p. jobs from the 1930s. Business is business, so the old birds began falling out of favor and the wonder is that they did not quickly vanish from the scene altogether. The U. S. was a throwaway society in the 1950s and almost everything was in danger of being junked as soon as the last payment was made. The majority of the 450 Howards and Stinsons ended up in utility roles, however, hauling skydivers, laboring as bushplanes, carrying baby chicks - whatever small operators could do with them to turn a buck. The scenario for the Staggerwings and very rare Spartan Executives was a little different, though. They held on to their corporate roles longer than company bean counters probably would have liked simply because pilots loved them so much and executives felt more comfortable and secure in their big, plush cabins. Fortunately, these factors combined to save most of the 450 oldies until the vintage aircraft hobby developed and gave them a new lease on life.

For a time the Howards, Stinsons and, to a lesser extent, the Staggerwings and Spartan Executives were relatively affordable, but perhaps inevitably the cream began rising to the top again and, today, the prices of these now treasured collector's items are inching back up into the same stratospheric levels the airplanes commanded when they were new . . . with the numbers adjusted for inflation, of course.

What it all boils down to is the simple quality of ageless magnificence. The 450s were magnificent machines when they were introduced in the 1930s, they are magnificent machines today . . . and they will always remain so in the minds and hearts of those of us who love aviation.

GENESIS

If you want the full story on the Spartan Aircraft Company and the airplanes it produced, you should pick up a copy of Chet Peek and George Goodhead's 1994 book, **The Spartan Story**. We're concerned here with just the Model 7W Executive, however, so, briefly, this is a snapshot of its origins. The little company that had been started on a shoestring in Tulsa in 1926 by Willis C. Brown and Waldo D. Emory benefited sufficiently from the aviation mania that followed Lindbergh's epic flight to Paris to attract big time financial interests and was scooped up in January of 1928 by William G. Skelly and his Tulsa-based Skelly Oil Company. The firm prospered throughout the remainder of the decade, but fell on hard times along



Stan Kavrik

with the rest of the country when the plague of the Great Depression settled over the land in the early 1930s. By 1934 the production of Spartan aircraft had essentially ceased, which prompted a response from Bill Skelly that was perhaps typical of a risk-taking oil man. Heretofore, Spartan had produced aircraft that were intended mainly for the flight training market, most notably for its own associated Spartan School of Aeronautics. With that market at least temporarily dormant, why not look to the far opposite end of the sales spectrum - to the corporate transportation needs of the companies that were somehow managing to thrive in the midst of hard times? Acting on the suggestion of Spartan Aircraft vice president and sales manager Ed Hudlow, Skelly approved the start of a project that had as its goal the design and production of the most advanced single engine corporate airplane in existence.

The first step was the hiring of 39 year old engineer James B. Ford, who set to work immediately to produce drawings for an all-metal, low wing, retractable gear, cabin airplane that must have seemed at the time to have been inspired by Jules Verne. Although easily recognizable as the first cut at the subsequent Executive, the "Standard Seven" prototype's most notable feature was an entirely inadequate vertical tail with a dorsal fin that extended forward nearly to the aft end of the cabin. It also had a Watters-type cowl . . . something like a full NACA cowl with individual air inlets for each cylinder of the airplane's 285 h.p. Jacobs L-5 radial engine.

Designed and built in 14 months, the prototype (Model 7X, Serial No. 0, NX13984) was flown for the first time on Sunday, March 8, 1936 by well known test pilot Eddie Allen. He made two flights, after which the airplane was sent back to the shop for a rework that involved a little less of Jules Verne and a little more vertical tail. A standard NACA radial cowl was also fitted. The need for more power had been evident in the early tests, so the Jacobs was replaced by a Pratt & Whitney R-985, which was rated at 400 h.p. in the days before 87 and higher octane fuel became generally available.

The revamped Model 7X proved to be the airplane Skelly, Hudlow and designer Ford had envisioned, so the design was frozen for the production model 7W, which was certified (ATC #628) on February 15, 1937. Production had already begun, and 34 Executives would be built between late 1936 and September 9, 1940 when the last example, NC17668, was built for Texaco.

According to **The Spartan Story**, five of the first eight 7Ws were shipped to Mexico, three of which made their way to Spain for service in that nation's civil war. Of the remaining 29, only two were sold initially to private individuals - and one was sold to the King of Iraq. One was retained by the factory for executive transport, but all the rest were sold initially to businesses, mostly oil and gas drilling companies. There were two multiple first owners: the Claude Drilling Company of Oklahoma bought two of them, and Standard Oil of Ohio bought three.

During World War II 16 of the 7Ws were impressed into the U. S. Army Air Force and given the designation UC-71-SP. All but two of them, Serial Numbers 24 and 33, were returned to civilian ownership after the war.

Today, 20 of the original 34 Model 7Ws are still registered by the FAA, which is a truly remarkable number to have survived for so long. It is a good measure of the esteem in which the 7Ws are held today that when one is damaged, it is invariably rebuilt. One of them was severely damaged by fire, but, amazingly, was beautifully restored.

NUTS AND BOLTS

When James Ford began producing the first drawings for the Spartan Executive in early 1935, the Jack Northrop-developed multicellular, stressed skin, monocoque metal structure that would become the standard in the aviation world was just coming into use. All- metal airplanes dated back to World War I and the German Junkers J.1, but most had load bearing internal frames, with flat or corrugated aluminum covering screwed or riveted to the frame members. In his design of the Spartan Executive, Ford took a conservative path about half way between the old Junkers/Ford Trimotor/etc. and the new stressed skin, monocoque structures that were showing up in the Northrop Alpha, DC-2 and others. He designed the Executive to have an internal welded steel tube truss to carry the primary loads, **and** a series of aluminum bulkheads and ribs to which an outer metal skin was attached. One of the inside jokes shared by Spartan Executive owners was that when Skelly Oil had an oil well go dry, they simply shipped the derrick to Spartan Aircraft to serve as the internal frame of an Executive.

The fuselage tubular truss included the spars for the stub wings, and this cross-shaped structure was literally the backbone of the airplane. The stub wings contained the main fuel tanks, the main gear wheel wells and, of course, were the attach points for the outer wing panels. The main spar truss was triangular in cross section, with the single tube on the bottom.

The Executive's tailwheel was a full swivel unit, which meant ground handling was by means of differential braking. This was perhaps the airplane's Achilles heel, because it would develop the reputation of being a ground looper.

As befitted such an expensive airplane, nothing was spared in the outfitting of the cabin. Only the finest materials were used to upholster and carpet it, and the standard instrumentation was state of the art in the late 1930s. Avionics were optional to allow owners to equip their Executives as they desired, and most were crammed with the best radios available at the time.

A rather large airplane, the 7W had a span of 39 ft., a length of 26 ft. 10 in. and was an imposing 8 ft. tall. With its complex structure, it was rather heavy at 2,987 pounds (by comparison, a D model Staggerwing had an empty weight of 2,540 lbs.). The gross weight was 4,400 lbs. Spartan Aircraft ads claimed a cruise of 210 mph at 9,600 ft, but it's doubtful many owners ran their R-985s that hard for any extended period. The aircraft's operating limitations list maximum permissible cruise as 190 mph indicated, with a never exceed speed of 257 mph indicated. Advertising puffery aside, the 7W was still a very fast airplane for the late 1930s. With its large three-piece flaps, the Executive landed at 57 or 63 mph, depending on whether you are reading advertising copy or factory specifications. Standard fuel capacity was 112 gallons, but optional fuselage tanks could be ordered that upped the total to 148 gallons.

The 7W was a five-place airplane, with individual front seats for the pilot and a second person and a rear bench seat that could accommodate three average sized persons. Two persons fitted more comfortably. All sat in the lap of luxury and had excellent visibility except for directly ahead. The pilot had a reasonably good view down the left side of the big Pratt & Whitney, so he or she could try to keep the nose pointed in the desired direction on take-off and landing.

Since most Executives were initially owned by companies, most were flown by professional pilots. The airplane was universally liked by the pros, and the private

owners who fly them today share that admiration. Good flying qualities never really go out of favor.

NC17613

Our subject airplane, Spartan Executive NC17613, Serial Number 7W-12, was rolled out the factory doors in Tulsa on November 15, 1937. It was not sold until the following July 26, 1938 when American Manufacturing Company of Ft. Worth became the first owner of record. A picture of NC17613 in American Manufacturing livery can be found on page 88 of **The Spartan Story**, and it shows the airplane initially had a somewhat unusual trim scheme. There were several trim designs used on new Executives. This one is the lightning stroke design, but it is unique in being bordered with a thick white stripe.

American Manufacturing based NC17613 at Meacham Field in Ft. Worth and really put the time on it. A maintenance form dated July 15, 1940 shows the total time to be 744.5 hours - accumulated in just two years. Apparently, the plane was ground looped about this time, because another paperwork entry dated July 18, 1940 states that the right wing tip and both prop blades had been damaged and were replaced by the factory.

The second owner of NC17613 was Reed Pigman, the founder of American Flyers. He purchased the Executive in his own name on December 30, 1940 and listed its intended use initially as ". . . for charter and sightseeing." A subsequent maintenance form stated the plane's principal use to be "Training - Advanced Instrument Direction Finding Instruction." In February of 1941 Pigman apparently used the Executive as collateral for a loan of $10,600 (about $212,000 today), which he paid off on Jan. 9, 1942.

With the bombing of Pearl Harbor on December 7, 1941 and the U. S. declaration of war coming shortly afterwards, the fate of NC17613 would soon take a new turn. On February 6, 1942 it would be "sold" to the Defense Supplies Corporation of Washington, DC for $17,500. On May 2, 1942, the "War Department, Washington, DC" would pay $17,655.58 to assume ownership. The airplane was actually turned over to the U. S. Army Air Corps, which assigned it the Serial Number 42-38265. There is nothing in the current FAA records detailing the Executive's wartime use . . . only that it was sold back to Reed Pigman on July 6, 1944.

Over the next five years, NC17613 would undergo several trips into the shop for overhaul and repair . . . for reinforcement of the landing gear attachment truss ("as per factory suggestion"); for replacement of the leading edge skin of the right wing between the last two outboard ribs; and overhaul of the R-985 by the Spartan School of Aeronautics. It took two typed pages to list the new parts put into the engine during the overhaul, including a "new type crankshaft", and nine reconditioned cylinders. Interestingly, the paperwork for the overhaul listed the aircraft's owner as American Flyers, although it was still legally registered to Reed Pigman. One entry in the plane's paperwork stated that the level flight speed was increased from 190 to 211mph.

On May 24, 1949 NC17613 was sold to E. P. Lunken and Thomas Warner of Hangar Two, Lunken Airport in Cincinnati . . . and almost immediately someone had a rather serious accident in the airplane. The only details in the existing paperwork reveal that on June 30, 1949 the propeller was rebuilt by Great Lakes Airmotive in Ypsilanti, MI, with the cryptic notation, "Blades had been damaged from fire." Then on July 1, 1949 a repair form states, "Install overhauled prop - rebuild both gears. Reskin left wing top bottom and fuselage belly as required."

Four months later, on September 16, 1949, Lunken and Warner would sell NC17613 to the South Bend Tool and Die Company in South Bend, IN. That firm would own the airplane for the next five years, during which time there were several interesting maintenance and repair form entries.

8-1-50 - "Installed tail wheel lock to eliminate shimmying, and possible ground looping."

8-14-52 - "2,373.50 T.T. - 0 since overhaul"

7-13-53 - By Cadet Air Service, Granger, IN: "(A) Installed factory new right hand top landing gear aluminum castings. (B) Repaired crack in right hand, left hand landing gear fitting tube supports, by electric arc welding using chromoly 3/32" rod."

8-5-53 - "Prop overhauled, blades cut down by H&S Prop Shop, Centerline, MI. 2,877 T.T."

On April 10, 1954 J. Curtiss McKinney of Titusville, PA became the eighth owner of NC17613, and he, in turn, sold the Executive to the Industrial Colloids Company of Emlenton, PA on April 4, 1955. Interestingly, this is the same company that owned Dr. Jerry Hanson's G17S Staggerwing from July of 1949 until January of 1951 (see the Winter 1995 issue of ***Sportsman Pilot***). Obviously this maker of industrial lubricants liked the big 450 h.p. business planes.

In July of 1955, Industrial Colloids had the Executive's prop rebuilt with new blades by Anderson Propeller Co. of Chicago, had the engine overhauled by Interstate Airmo-

tive of St. Louis, and had a Dare VHF-T1-12 transmitter replaced by a newer Dare VHF-T5-R. Just over a year later, however, the airplane was sold on June 26, 1956 to James D. Oxley of Fenton, MI. In August of the following year he had the prop overhauled by H&S Prop Shop of Centerline, MI and the ". . . damaged engine mount ring replaced with BT-13 ring (next size larger diameter ring)."

Another ground loop, with the airplane ending up on its nose?

On December 5, 1957, Betty L. Plackard of Alexandria, IN became the 11th owner of record of NC17613, and apparently had no problems with it during the six months she held the title. On June 4, 1958 the 7W was sold to the J. E. Miller Drilling Company of Abilene, TX, and that firm would operate the airplane for over two years without a problem that made its way into the FAA required paperwork.

On October 11, 1960 NC17613 went through the hands of the famed Jack Adams Aircraft Sales of Walls, Mississippi, then was resold on November 19, 1960 to James W. Phillips of Hackensack, NJ. The following March, Phillips had Teterboro Aircraft Service rip out all the old radio gear and its attendant wiring and antennas and replace it with all-new Narco avionics.

John L. Boyce of Flanders, NJ became the 15th owner of NC17613 on April 1, 1964, paying $9,500 for it. He had Teterboro Aircraft Service remove some 40 pounds of the radio equipment James Phillips had installed, and had the ailerons, elevators and rudder recovered with Ceconite. Remarkably, this was the first recorded recovering of these control surfaces, which means the fabric would have been 27 years old by that time. It is possible, of course, that they were recovered by the Air Force during World War II, but no record exists if that was the case.

John Boyce would own the Executive for the next 14+ years, until finally selling it to Lowell Blossom of Zionsville, IN on November 11, 1978. During the next three years, Blossom would have a lot of work done on

the ol' bird, the highlights of which were:

11-12-79 - Installed a Jasco 6555-1 alternator

11-20-79 - Replaced the Hamilton Standard propeller with a Hartzell HC-B3W301E and C3 Hartzell governor

4-24-80 - Major overhaul of the engine by L. P. French of Indianapolis

7-23-80 - Rudder and elevators recovered with Stits 103-2 by Daniel Montgomery of Zionsville, IN

On January 29, 1982 NC17613 was sold to MarJon Realty, of San Carlos, CA, which was, in reality, Peter Hawks, the son of famed movie producer Howard Hawks. By this time the collector's item status of a Spartan Executive had escalated the price quite dramatically, as evidenced by the fact that at least part of the purchase price was covered by a $50,000 loan from Wells Fargo bank.

Hawks loved avionics and instrumentation and really loaded the panel with state of the art goodies, including a Brittain Industries B5C Flight Control System (July 1986). Unfortunately, however, he would die in the late 1980s, and on September 23, 1989 the Spartan was purchased by Stan Kavrik of Tucson.

STAN KAVRIK

Stan Kavrik grew up in Little Ferry, NJ, just across the Hudson from New York City and within walking distance of the Teterboro Airport. He recalls seeing Amelia Earhart, Clarence Chamberlin, Bernarr McFadden and many other famous pilots of the 1930s and their exploits were the inspiration for the aviation career he hoped to follow. He finished high school during World War II and immediately signed up for the Air Force aviation cadet program, but the war in Europe ended before he could begin flight training. With wholesale cutbacks in the pilot training programs, the best Stan could salvage was a tour as a flight engineer on an OA-10, the Air Force version of the PBY Catalina, which was used in Air/Sea Rescue duty.

At war's end, Stan returned to civilian life and went to work for Atlantic Aviation at the Teterboro Airport. In his time off he used his G.I. Bill to get his Private pilot license in a Cub, but still despaired that he had not had the opportunity to become an Air Force pilot. By the late 1940s he was married and had a child, so any hope that he might still get a spot in the cadets was over because married men were not eligible for the program.

The immediate postwar period was a time of adjustment and great social and political change . . . and one of those changes was the opening of the aviation cadet program to married men. Still only 23, Stan decided to go for it one more time - and to his surprise and elation, he was accepted in the cadet program once again. This time it all worked out and he soon found himself flying the T-6 at Randolph Field. He got his wings in September of 1950, just after the start of the Korean "police action", and

quickly found himself on the fast track for participation in that conflict. He was sent initially to Vance AFB for multi-engine training in the B-25, then was sent to Fairchild AFB to check out in the B-29. He ended up in the 98th Bomb Wing and flew 30 combat missions over Korea.

Stan participated in the last daylight B-29 raid of the war and his formation was jumped by 40 MiG 15s. Australian and New Zealand pilots were flying cover in Gloster Meteors, but were no match for the MiGs. Air Force F-84s on flak suppression missions were called up to help out, but they, too, were hammered by the MiGs, so F-86s were requested. Unfortunately, the only Sabres in the air at the time were too far away to be of assistance, so two B-29s were shot down and two more were badly damaged, but the rest, including Stan and his crew, managed to fight their way far enough south that the short range MiGs had to break away and head for home.

After his Korean war tour, Stan was stationed at Davis Monthan AFB in Tucson, initially flying B-29s, but switching to B-50s as soon as they became available. He entered the jet age as a pilot of B-47s - also at Davis Monthan, and ended up his Air Force flying career in B-52s. As is usually the case with career officers, he flew a desk in his last few assignments, and finally retired in 1970 with the rank of major.

Having spent so much of his Air Force career at Davis Monthan AFB, Tucson seemed more like home than any other place, so Stan and his family settled there after his retirement. Wanting to keep his hand in the flying game, he flew for a time as a captain for Cochise Airlines (Cessna 402s, Merlins and Convairs), but when the company went belly up, he " . . . just called it quits and began collecting airplanes."

Stan's first civilian airplane was the Knight Twister Clyde Parsons used to win the first Biplane Championship at Reno in 1964. The Biplane class rules were amended in 1966 to require a minimum wing area of 75 sq. ft., so the Knight Twister with only 55 sq. ft. was no longer eligible to race. Stan flew the Twister, N67P, for about seven years and had designer Vernon Payne draw up and build a set of 75 sq. ft. wings during that period. The airplane did not fly well with the new wings, however, so Stan put the original wings back on and eventually sold the historic little biplane. Unfortunately, the new owner got into a PIO on his initial takeoff and smashed up the little bird pretty badly, but survived with minor injuries.

Over the next few years Stan would own a 330 Jacobs powered F-17B Staggerwing and a T-6. Both would eventually be sold, with the T-6 going to Evergreen Aviation to use to check out pilots for the outfit's collection of warbirds. Then came the Serial Number 25 Spartan Executive, which was once owned by Paul Mantz and used as a honeymoon special for quick trips from Los Angeles to Las Vegas. Stan kept the Spartan for seven years before finally selling it to Lawrence Smith of Collinsville, CT. At that point he decided he wanted an open cockpit airplane, so he bought John Turgyan's Waco Taperwing, but sometime later Lawrence Smith also bought that airplane from him.

Now totally out of airplanes, Stan sat

back and gave a lot of thought to the various aircraft he had owned and flown, and in the end he decided that the Spartan Executive was the airplane he would like to own again. Consequently, he began looking for another one - and ended up buying NC17613 from the Peter Hawks family.

At the time of the purchase, the Spartan was based at the famed Nut Tree airport east of San Francisco and he and his wife set out to fly it home to Tucson. A fuel stop was made at Mojave, CA and on take-off the circuit breakers popped when the gear was retracted. Deciding that if he had a problem, he'd just as soon have it at home, Stan flew on to Tucson and lowered the gear with the hand crank. He made a fly-by for a visual check of the gear by friends on the ground, and after being told it looked O. K. the landing was made. The airplane touched down normally and rolled nearly 2,000 feet before both main gears suddenly collapsed. With the fuel tanks in the bottom of the fuselage and the wing stubs, a belly flopper can result in fire, but, fortunately, it didn't happen in this instance.

A subsequent assessment of the damage revealed that the fuselage, flaps, prop and engine bore the brunt of the crunch and slide down the pavement. Surprisingly, the engine cowling and landing gear doors were undamaged.

In addition to reskinning the bottom of the fuselage and the flaps, Stan decided that while such major metal work was being done, he would also reskin the wings. In its half century of existence, the top surfaces had accumulated their share of little dings and dents, so it was time for some new 2024 T3 if the ol' bird was to be made to look like new. Consequently, the old .025" skins were removed and used as patterns for new .032 skins. The skin replaced extended from the main spar on the under side, around the leading edge and back across the entire top surface. The paperwork detailing the difficulty of placing the leading edge bend is both amusing and informative.

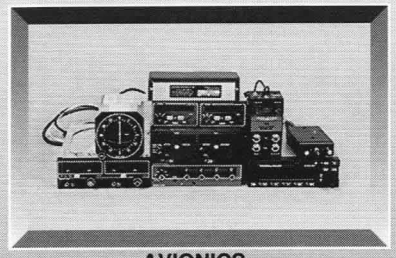
"The leading edge radius was carefully rolled into the new skins with great care taken to avoid scratches. This was accomplished on a specially constructed table with the help of 6 strong men. Plywood templates were used to check the radius during bending."

A&P/IA Luther Hawley signed off the work, which also included the recovering of the left aileron (Stits) and the welding of cracks in a couple of 3/4" diagonal tubes at the very aft end of the fuselage truss.

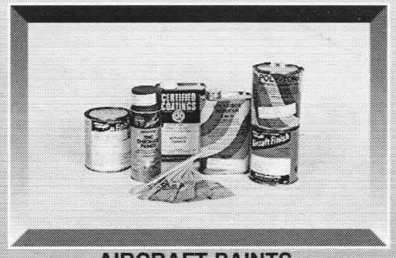
During the rebuild, Stan had modern Cleveland brakes installed on the Spartan, but was never able to get them to function normally. Eventually the old Goodyear multi-disc brakes were reinstalled . . . which had worked beautifully on his first Executive . . . but they proved to be no better than the Clevelands. When we were discussing the airplane at the Copperstate EAA Fly-In last October, Stan believed the problem lay in the fact that flexible brake lines extended all the way to the master cylinder. He planned to replace them with hard lines at the next annual.

Other than what he described as spongy brakes, Stan is really pleased with his "new" Spartan. During the same period of ownership, he has also bought and sold a really nice, highly polished straight 35 Bonanza. He says he regrets selling it, but nice as it was, it was not in the same league as his Spartan Executive.

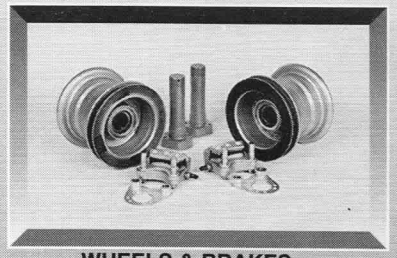
Few airplanes ever have been.



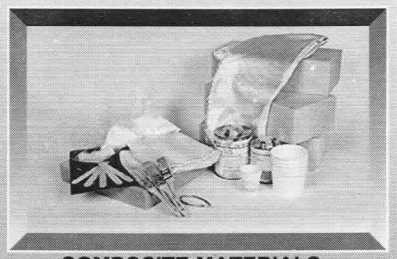
AVIONICS



AIRCRAFT PAINTS



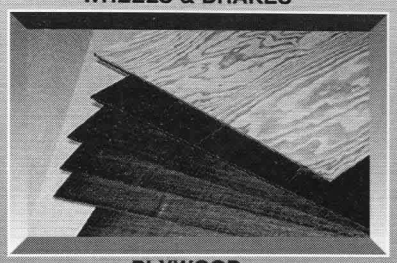
WHEELS & BRAKES



COMPOSITE MATERIALS

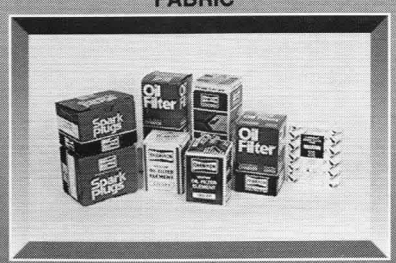
FABRIC

ALUMINUM

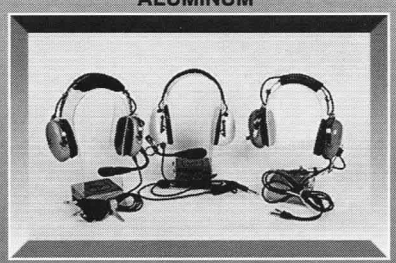


PLYWOOD

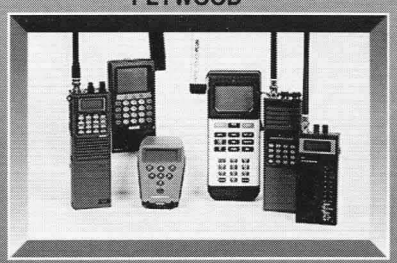
SITKA SPRUCE



PLUGS/FILTERS

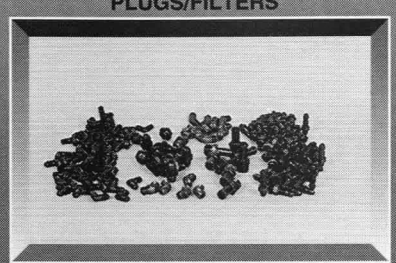


HEADSETS

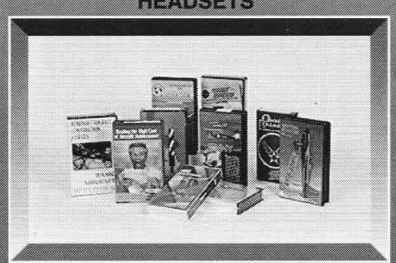


HANDHELDS

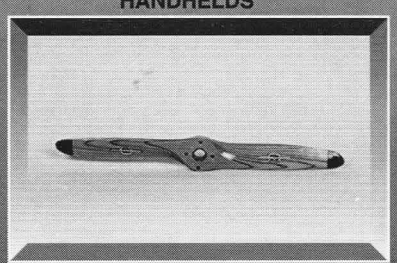
BOOKS



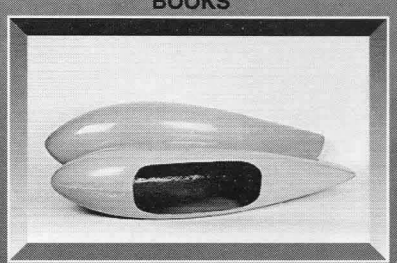
AN FITTINGS



VIDEOTAPES



PROPS



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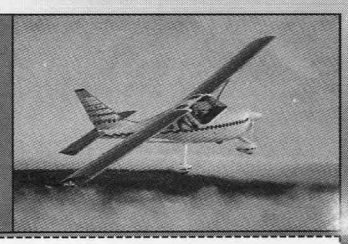

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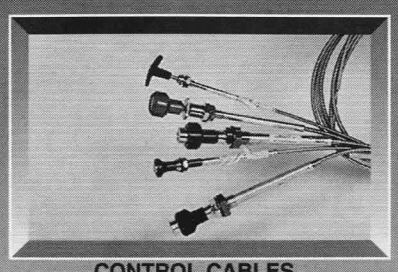
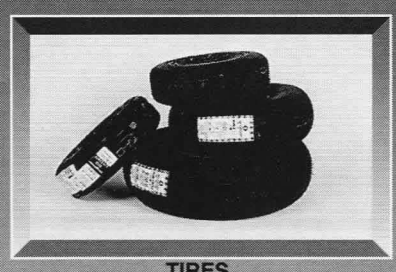
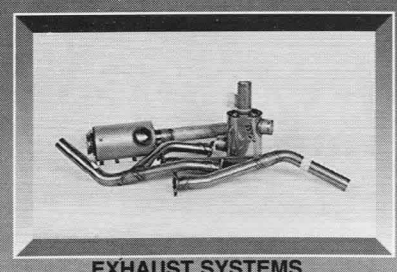


CONTROL CABLES

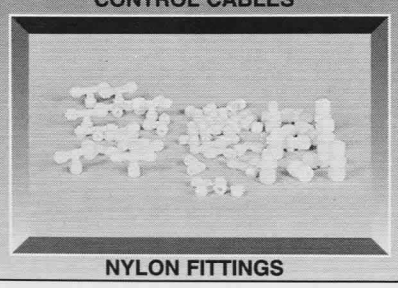


TIRES

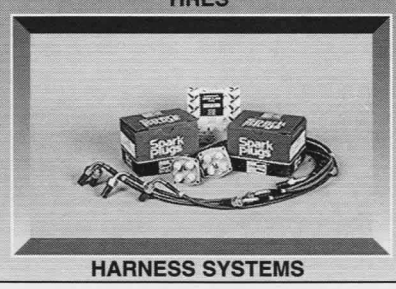
PROP SPINNERS



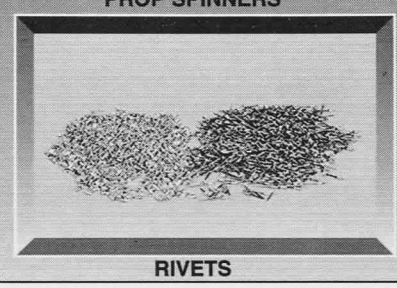
EXHAUST SYSTEMS



NYLON FITTINGS



HARNESS SYSTEMS



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